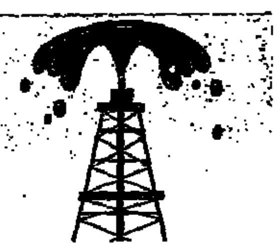
FINANCIAL TIMES

EU summit
An agenda for Dublin
Page 12

Hong Kong
Race for the top job
Page 6



Black gold
The hunt for oil reserves
Page 18

Hot air
Solar flight takes off
Environment, Page 9

World Business Newspaper http://www.FT.com WEDNESDAY OCTOBER 2 1996

Eurotunnel close to debt deal

Banks are optimistic over $13.7bn refinancing package

By Geoff Dyer in London and Andrew Jack in Paris

Eurotunnel was on the verge last night of reaching a refinancing deal with its leading banks which would save the Channel tunnel operator from the threat of bankruptcy.

Negotiators said the few details left to be decided were being thrashed out at a secret location in Paris last night, and a deal to reduce the group's crippling £8.8bn ($13.72bn) in debts could be finalised by this morning.

"We are making no comment, with a satisfied tone," a Eurotunnel official said.

National Westminster, one of the six banks involved in the negotiations, said last night: "We are optimistic."

The prospect of a resolution follows more than a year of talks between the company and its banks after the Anglo-French group suspended interest payments on its debts last September.

The risk that the group might end up in administration was increased on Monday when it missed a deadline for reaching an agreement with the banks.

And bankers stressed last night that no matter how close the two sides were, the potential deal could still unravel.

The two parties have agreed since May on the broad outline of a deal which is expected to include an initial debt-for-equity swap leaving the 225 banks with up to 49 per cent of the shares.

The proposals will also involve the issue of convertible bonds which will be redeemable by the company if it achieves certain revenue targets, but which could leave the banks owning a substantial majority stake of around 75 per cent at a later stage.

Analysts estimate the group needs to reduce its debt burden by between £3bn and £5bn. However, until now they have been unable to agree on the share price in the initial swap and on the conversion price of the bonds. The company is understood to have been pushing for a conversion price well over 265p, the level at which shares were issued in the 1994 rights issue. But this has been strongly opposed by some bankers.

The company has been negotiating with six banks in the so-called "steering group" – National Westminster, HSBC, Crédit Lyonnais, Banque Nationale de Paris, the European Investment Bank and the European Coal and Steel Community.

Any deal reached with the steering group will have to be approved by all the group's 225 banks and its shareholders. The French commercial court, which has been helping coordinate talks, said it would publish a statement today. If a deal is not reached, the court can either impose a compromise on the two sides or put the company into administration.

On Monday, Eurotunnel asked for its shares to be suspended at 115p, due to fears that leaks about the negotiations would create a false market. The company steadily increased passenger numbers over the summer, and claims to have a 45 per cent share on the Dover-Calais route.

Clinton opens delicate Mideast talks

By Jurek Martin in Washington

President Bill Clinton yesterday began delicate negotiations with the leaders of Israel, the Palestinian Authority and Jordan aimed at salvaging the Middle East peace process.

"We're going to work today, we're going to work tomorrow to demonstrate our commitment to end the violence and to get the peace process going again," the president said.

Mr Clinton's comments came at the start of an Oval Office session with Mr Benjamin Netanyahu, the Israeli prime minister, Mr Yassir Arafat, president of the Palestinian Authority, and King Hussein of Jordan.

Also present, underlining the importance the US attaches to the summit, were Mr Al Gore, the US vice-president, and Mr Warren Christopher, secretary of state. Mr Clinton had held earlier separate meetings first with Mr Netanyahu and then with Mr Arafat.

Mr Mike McCurry, the White House spokesman, deliberately set out to play down expectations: "It is not possible at this moment to be encouraged, but it is necessary to be determined."

Mr Netanyahu indicated he was willing to engage in "continuous" negotiations with the Palestinians after the Washington meeting, but he appeared to rule out major concessions. "We don't rule out other people making gestures to us," he added.

He also sought to exploit potential US political divisions by arranging to meet Mr Bob Dole, the Republican presidential candidate. On Monday, Mr Dole insisted: "Our friend Israel must not be asked to make concessions as a means of restoring order."

Palestinian leader Yassir Arafat yesterday discusses the Middle East peace process with US President Bill Clinton Picture: Reuter

Prior to the White House session, Mr Arafat conferred with King Hussein and Mr Amr Moussa, the Egyptian foreign minister, representing President Hosni Mubarak.

There were unconfirmed reports that Mr Arafat presented a list of as many as five demands, including the closure of the exit to the archaeological tunnel in Jerusalem, the opening of which precipitated last week's violent clashes.

Mr Dole had previously been reluctant to criticise Mr Clinton while he was engaged in personal diplomacy but his statement appeared to reflect the advice of his foreign policy advisers that the current Middle East crisis offered an opportunity to criticise Mr Clinton's conduct of external affairs as well as appeal to the Jewish American vote.

But it prompted a sharp response from both the White House and Democratic party leaders in Congress. Mr McCurry called Mr Dole's intervention "rather unnecessary" while Senator Tom Daschle, the minority leader, thought Mr Dole "was close to crossing the line in a very sensitive area".

The European Union, in a statement coinciding with the start of the summit, criticised Israel's use of tanks and helicopter gunships to crush last week's protests.

EU foreign ministers, meeting in Luxembourg, called on Israel and the Palestinians to exercise the utmost restraint and to resume talks.

EU takes anti-Cuba legislation to world trade body

By Lionel Barber in Luxembourg and Guy de Jonquières in London

The European Union is to seek a World Trade Organisation ruling that a US anti-Cuba law violates global trade rules.

The decision, taken yesterday by EU foreign ministers meeting in Luxembourg, seems certain to exacerbate the dispute between the EU and Washington over the extra-territorial application of US trade legislation.

The US has said it would view such a move by the EU as provocative.

The case also poses a sensitive test of the WTO's legal and political authority.

Sir Leon Brittan, the EU trade commissioner, told the foreign ministers that Europe needed to act because its political credibility was at stake.

"What has happened today has shown the whole world that the EU has the capacity to defend itself and the political will to do so. Respect grows when people think that you can stand up for your interests," Sir Leon said.

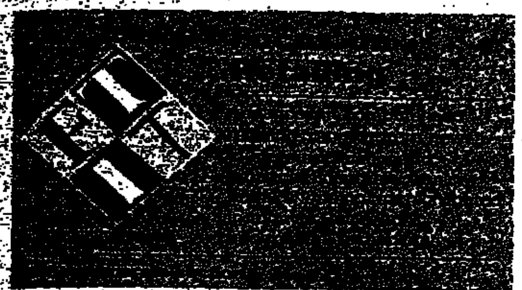
The decision follows a period of mixed signals about EU intentions. Mr Jacques Santer, the European Commission president, recently suggested the EU would defer any decision on retaliation against the laws until after the November 5 US presidential election.

The EU plans to ask the WTO on October 16 to set up a disputes panel to hear its complaint against the so-called Helms-Burton Act, which authorises private US court actions against non-US companies that "traffick" in confiscated Cuban assets.

If, as expected, the US objects to the EU demand, the procedure will be delayed until November 22, when a second hearing will be held. The US cannot block the formation of a panel, but the panel's decision may be reviewed by the WTO appeals tribunal.

If the WTO decides the act violates world trade rules, the

Continued on Page 14



100,000 German workers protest over sick pay cuts

More than 100,000 engineering workers demonstrated throughout Germany as several companies went ahead with a controversial cut in the minimum statutory sick pay benefit from 100 per cent of wages to 80 per cent. About 16,000 workers walked out at the Stuttgart factory of Daimler-Benz, Germany's largest industrial group which was the first large company to announce plans to make the cuts. Page 14

London stocks at record high: UK stocks set new highs as the first trading session of the fourth quarter attracted substantial institutional cash. The FTSE 100 index jumped 38.5 to a record 3,992.2, and was poised to top the 4,000 mark this morning. London stocks, Page 30

BMW in Chrysler joint venture: BMW said it had agreed with US carmaker Chrysler to set up a joint venture to build smaller four-cylinder motors in south America. Page 8

Gazprom accounts frozen: Russia's natural gas monopoly Gazprom accused the government of freezing its bank accounts as punishment for unpaid taxes, Russian news agencies said. Page 14

Aviation talks setback: Plans by EU transport commissioner Neil Kinnock to negotiate with Washington on aviation rights suffered a setback after the US said such talks were unlikely to achieve results. Page 2

Bond issues break record: International bonds issues have raised $509bn in the first nine months of the year, compared with $464.6bn in 1995, the previous record year. Page 15; Bonds, Page 22

General Motors, the world's biggest vehicle maker, will increase investment in central and eastern Europe to reinforce its position as one of the region's leading manufacturers. Page 5

Suu Kyi supporters detained: Burma faced increasing international pressure after the military regime said it had detained more than 500 supporters of Aung San Suu Kyi's National League for Democracy. Page 6

Amnesty criticises Turkey: Amnesty International issued a report condemning extra-judicial killings, torture and disappearances in Turkey as it launched a worldwide campaign to highlight human rights abuses in the country. Pressure to clean up launderers, Page 3

Wells Fargo & Co, the California retail bank, was the most profitable bank in the world last year according to a survey by Ibca, the European bank rating agency. Page 18

US to ease encryption curbs: The White House plans to ease export restrictions on powerful encryption software, used to scramble electronic messages to prevent eavesdropping by computer hackers. Page 7

S Korea reviews North aid: South Korean President Kim Young-sam said his government would review policies towards the North, including economic assistance, following the recent infiltration by armed North Korean agents. WTO call for reforms, Page 5

Danes promise biker club crackdown: The Danish government promised to crack down on biker clubs whose rivalry has led to six deaths in the past two years. Page 3

Talks on shipbuilding subsidies: The US and other leading shipbuilding powers will hold emergency talks this month on an international agreement to curb subsidies. Page 5

World Bank targets corruption: World Bank president James Wolfensohn called on national leaders to stamp out "the cancer of corruption", prompting unease among some African and Asian countries about greater western interference in their internal politics. Page 4

FT.com: the FT web site provides online news, comment and analysis at http://www.FT.com

STOCK MARKET INDICES

New York: lunchtime		
Dow Jones Ind Av	5,862.04	(-20.13)
NASDAQ Composite	1,215.75	(-11.17)
Europe and Far East		
CAC40	2,123.21	(-9.60)
DAX	2,558.73	(+3.88)
FTSE 100	3,992.2	(+38.5)
Nikkei	21,462.97	(-93.43)

US LUNCHTIME RATES

Federal Funds	5¼%	
3-mth Treas Bills: Yld	5.093%	
Long Bond	96¾	
Yield	6.888%	

OTHER RATES

UK: 3-mo Interbank	5¾%	(5¾%)
UK: 10 yr Gilt	99¼	(98¾)
France: 10 yr OAT	103.02	(102.82)
Germany: 10 yr Bund	101.35	(101.01)
Japan: 10 yr JGB	101.2502	(101.322)

NORTH SEA OIL (Argus)

Brent Dated	$23.135	(23.205)

GOLD

New York: Comex		
(Dec)	$381.0	(380.5)
London:		
close	$378.7	(378.65)

DOLLAR

New York: lunchtime		
£	1.565	
DM	1.52575	
FFr	5.1715	
SFr	1.25475	
Y	111.225	
London:		
£	1.5646	(1.5634)
DM	1.5258	(1.5253)
FFr	5.167	(5.1613)
SFr	1.2536	(1.2536)
Y	111.295	(111.375)
Tokyo close:	Y 111.35	

STERLING

DM	2.3872	(2.3846)

Italy angered by Chirac's remarks on single currency

By Robert Graham in Rome and David Buchan in Paris

Italy reacted angrily yesterday after Mr Jacques Chirac, the French president, questioned Italy's readiness to join a single European currency.

Mr Romano Prodi, Italy's prime minister, summoned the French ambassador to protest at the suggestion that Italy might not be among the first wave of countries joining the euro currency.

The row threatened to derail tomorrow's Italo-French summit in Naples – a meeting intended to seal improved relations between the two countries. These soured last year after Italy's United Nations vote against France's resumption of nuclear testing.

However, it appeared that the summit was to go ahead after Mr Chirac issued a statement praising the Italian government's efforts to improve public finances, and playing down the significance of his remarks.

On Monday Mr Chirac told workers in the depressed textile town of Arras that some countries would have to "clean up their economic and financial situation" to join the single currency by the 1999 deadline. "It may take a little longer for those who are further behind, like Italy," he said.

Mr Chirac said that despite its recent rise, the lira was still at a level unsuitable for a single European market. He complained that French textiles had been hit "more by a competitively devalued lira, and possibly the pound and peseta, than by south-east Asia imports".

Having just unveiled a tougher-than-expected budget last Friday, the Prodi government is especially sensitive to any suggestions it might be excluded from taking part in monetary union.

The Bank of Italy has been intervening to prevent the lira from appreciating above L1,000 against the D-Mark. Italian exporters have made clear they would prefer the lira to re-enter the European Exchange Rate Mechanism on a band between L1,000 to L1,100.

The row follows the dismay provoked in Rome by Mr José Maria Aznar, the Spanish prime minister, who suggested in the Financial Times on Monday that he had spurned overtures from Italy to form a Mediterranean alliance to achieve more flexible terms for monetary union. Mr Prodi called Mr Aznar for an explanation and denied any such overture had been made.

However, Mr Prodi said his discussions with Mr Aznar had played an important part in helping decide that Italy had to make a bigger effort and cut its budget deficit to the Maastricht target of 3 per cent of gross domestic product by next year – not in 1998 as originally planned.

Mr Prodi, in today's Financial Times, insists: "The budget is remarkably tough... If we do all this, it will be impossible to leave Italy out."

Chord of disunity, Page 12
Prodi interview, Page 13

Albania	Lek 275	Gibraltar	£0.75	Lithuania	Lit 16.00	Qatar	QR13.00
Austria	Sch37	Greece	Dr600	Lux	LFr75	S.Arabia	SR13
Bahrain	Din1.300	Hong Kong	HK$20	Malta	Lm0.70	Singapore	S$4.30
Belgium	BFr75	Hungary	Ft270	Morocco	MDh16	Slovak Rp	Sk75
Cyprus	C£1.20	Iceland	IKr200	Neth	Fl 4.75	S.Africa	R12.00
Czech Rp	Kč50	India	Rs75	Nigeria	Naira125	Spain	Pta250
Denmark	DKr20	Israel	Shk9.00	Norway	NKr22.00	Sweden	SKr20
Egypt	E£5.00	Italy	L3200	Oman	OR1.75	Switz	SFr3.70
Estonia	EK 28	Japan	Y500	Pakistan	Rs52	Syria	S£60.00
Finland	Fmk16.00	Jordan	JD1.75	Poland	Zl6.00	Tunisia	Din2.000
France	FFr12.00	Kuwait	Fils750	Portugal (mainland)	Es350	Turkey	L120,000
Germany	DM4.50	Lebanon	LL3500			UAE	Dh13.00

CONTENTS

Washington attacks the two-stage approach by Brussels

US-EU aviation talks setback

By Michael Skapinker, Aerospace Correspondent

Plans by Mr Neil Kinnock, the EU transport commissioner, to negotiate with Washington on aviation rights suffered a setback yesterday when the US said such talks were unlikely to achieve results.

Mr Charles Hunnicutt, US assistant secretary for aviation, said in a speech in Prague that the EU's decision to pursue a two-stage approach to negotiations meant little progress could be made in concluding a liberalised aviation agreement between Washington and Brussels.

Mr Kinnock won a mandate from member states in June to begin aviation talks with the US. The UK was the only dissenting voice, saying air rights should continue to be negotiated on a bilateral basis.

The EU said it would first negotiate with the US on "soft rights", such as state aids, code-sharing – under which airlines sell seats on each other's flights – and computer reservation systems.

If progress was achieved, the EU would ask member states for a further mandate to negotiate on issues such as traffic rights, or the destinations to which airlines are permitted to fly. The adoption of the two-stage approach was seen as necessary to persuade dissenters such as France and Portugal to support EU-wide negotiations with the US.

However, Mr Hunnicutt said: "We are sceptical that those discussions can yield concrete results." He said Washington was only interested in concluding an 'open skies' accord with the EU. We cannot make real progress with the EU, or any other multinational organisation, unless it is authorised to negotiate all of those elements that create open market environments."

"While we are willing to share ideas of methods for implementing provisions of an agreed market-oriented aviation relationship, we must be able to negotiate all these elements at the same time – not in dribs and drabs, not in stages, because all the elements of open skies are inter-related."

He said US officials would meet their EU counterparts later this month. But he added: "Unless the Commission can now come with a clear mandate to negotiate the full range of factors that go into true open skies, we expect that this meeting will primarily involve a listening session on our part."

He said the US would instead continue to reach bilateral open skies agreements with European governments. The US has so far concluded 12 European agreements, nine of them with EU member states.

Neil Kinnock: US says talks with him at present unlikely to achieve results

European 'judicial area' sought

By Frances Williams in Geneva

Seven of Europe's most prominent anti-corruption judges yesterday appealed for creation of a "European judicial area" that would let prosecutors and investigating magistrates freely share information across borders.

In their "Geneva appeal" the judges say European politicians, many themselves caught up in the web of organised crime and corruption, have shown themselves incapable of dealing with a problem threatening democracy and the rule of law.

"The harmful effects of organised crime do not stop at national borders," Mr Bernard Bertossa, Geneva's public prosecutor, said yesterday. "There needs to be free circulation of investigation information, not just of criminals and capital."

The Geneva appeal calls for all judicial border restrictions to be scrapped, so that requests for help in investigations are not held up by red tape, government intervention or lengthy appeals in the courts.

Mr Gherardo Colombo, Milan's deputy prosecutor, who worked alongside Mr Antonio di Pietro on Italy's "clean hands" corruption investigation, said yesterday that, of the half a million requests for information issued in that inquiry, only a third had received any response.

In some instances it had taken more than four years to find out the answers to simple questions such as the name on a bank account or whether funds had been transferred to an account.

The judges also want a new European convention that would oblige signatories to lift banking secrecy when another country asks for judicial assistance, allow direct contact between judges, provide for the immediate transmission of information and make tax fraud a crime in countries such as Switzerland where it currently is not.

The appeal further urges governments to agree to penalise their nationals who are guilty of trying to corrupt foreign officials, a cause already being pushed by the US which is the only country to have such a law.

The seven judges, from Switzerland, Italy, Belgium, France and Spain, launched their appeal to coincide with the publication of a book to which they have contributed by Mr Denis Robert, a former journalist on the French newspaper Liberation.*

La Justice ou le Chaos, by Denis Robert (Editions Stock, Paris) FFr135

THE FINANCIAL TIMES
Published by The Financial Times (Europe) GmbH, Nibelungenplatz 3, 60318 Frankfurt am Main, Germany. Telephone ++49 69 156 850, Fax ++49 69 596 4481. Represented in Frankfurt by J. Walter Brand, Wilhelm J. Brüssel, Colin A. Kennard as Geschäftsführer and in London by David C.M. Bell, Chairman, and Alan C. Miller, Deputy Chairman. Shareholders of the Financial Times (Europe) GmbH are: The Financial Times (Europe) Ltd, London and F.T. (Germany Advertising) Ltd, London. Shareholder of the above mentioned two companies is: The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.
GERMANY:
Responsible for Advertising: Colin A. Kennard. Printer: Hürriyet International Verlagsgesellschaft mbH, Admiral-Rosendahl-Strasse 3a, 63263 Neu Isenburg. ISSN 0174 7363. Responsible Editor: Richard Lambert, c/o The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.
FRANCE:
Publishing Director: P. Maraviglia, 42 Rue La Boétie, 75008 PARIS. Telephone (01) 5376 8254, Fax (01) 5376 8253. Printer: S.A. Nord Eclair, 15/21 Rue de Caire, F-59100 Roubaix Cedex 1. Editor: Richard Lambert. ISSN 1148-2753. Commission Paritaire No 67808D.
SWEDEN:
Responsible Publisher: Hugh Carnegy 468 618 6088. Printer: AB Kvällstidningen Expressen, PO Box 6007, S-550 06, Jönköping.

Polish government reshuffle may slow pace of sell-offs

By Christopher Bobinski in Warsaw

The pace of privatisation in Poland could slow down as a result of the government's restructuring of economic ministries and a cabinet reshuffle which came into effect yesterday.

The reshuffle leaves Mr Grzegorz Kolodko, finance minister, in overall charge of the economy but puts responsibility for the sale of state sector companies into the hands of the sceptical junior coalition partner.

The reorganisation, designed to make the administration more responsive to the needs of an increasingly privatised economy, puts Mr Miroslaw Pietrewicz of the peasants party (PSL) in charge of the new state treasury which is to oversee state-owned companies and handle privatisation. This was part of a political compromise required to ensure survival of the socialist-led coalition government until general elections next year.

Until now the sale of state assets has been been run by the privatisation ministry, which disappears. Mr Wieslaw Kaczmarek, who has headed the ministry for the past three years, was criticised by the PSL for his zeal over privatisation while Mr Pietrewicz, who headed the now-defunct central planning office, has never shown enthusiasm for privatisation. Last night, however, Mr Kaczmarek reluctantly agreed to stay on and serve as deputy minister.

The reforms create a new ministry of the economy which subsumes the former trade and industry and foreign trade ministry functions. This new ministry remains in the hands of the main coalition party, the Democratic Left Alliance (SLD), which also gets the powerful joint ministry of public administration and the interior.

The reshuffle leaves Mr Grzegorz Kolodko, deputy premier responsible for the economy and the finance minister, in place. His ministry retains responsibility for disposals of state-owned banks. The government is to press ahead with the sale of a 65 per cent stake in the Warsaw-based Powszechny Bank Kredytowy (PBK) early next year, while the Bank Handlowy and the Bank Zachodni in Wroclaw will be sold in 1997.

Mr Kaczmarek celebrated his last day in office on Monday by a flurry of privatisation approvals. They include the sale of the Tychy brewery to a joint venture led by South African Breweries and sale of the Pawafag railway engine works in Wroclaw to Adtranz, a German subsidiary of ABB, the Swiss-Swedish power plant and engineering producer. Other last-minute disposals included the sale of Refa, an electrical equipment producer, to GEC Alsthom, and an ailing tobacco company in Lodz to a group of local investors.

British stockman with his herd. There were too few people to monitor BSE in the past, says a Brussels official Reuter

Senior Brussels official complains of inspection staff shortages

BSE 'badly monitored' by EU

By Caroline Southey in Brussels

The European Union's top civil servant responsible for farm policy yesterday admitted mad cow disease was badly monitored in the UK during four crucial years because of staff shortages in Brussels.

The evidence was given to the European parliament inquiry into allegations that the European Commission was negligent in managing the threat of BSE, bovine spongiform encephalopathy, and that senior civil servants sought to cover up the dangers of the disease. The allegations have focused on Mr Guy Legras, the Commission's top agricultural bureaucrat after letters written by him were leaked to the press earlier last month.

Mr Legras attacked critics of the Commission's BSE policy and denied charges that he had been involved in trying to limit discussions on the disease. The Commission had "never sought to disseminate this information" nor had it tried to keep information out of the public domain. Even if the Commission had "wanted to hide anything, nobody would have paid any attention to it" and that scientists would have "cried foul".

But Mr Legras admitted there had been insufficient monitoring of BSE between 1990 and 1994. He said this was mainly due to the fact that the Commission's inspection division had only a dozen people working for it. This was a "pretty laughable level of staffing," he said.

Mr Legras blamed the Commission for the staff shortage pointing out that the then commissioner for agriculture, Mr Ray MacSharry, had repeatedly "drawn the attention of the college to the disastrous situation of staffing in the veterinary services" and the risks posed by the lack of resources. But, he said, "we got much less than we asked for" partly because the Commission was preoccupied with the implementation of single market legislation.

Mr Legras also blamed member states for inadequate attention to BSE, pointing out that the EU strategy should have been "jointly managed" by the Commission and EU countries. "I believe in the principal of subsidiarity. But I am saying passionately that this will only work if there is a counterweight [in Brussels] which is not there at the moment."

Mr Legras denied he had been pre-occupied with the effects of BSE on the markets. "At no time did markets take priority over health," he said, but admitted he had wanted to "avoid panic which was not supported by scientifically-based and properly judged information". He added that the BSE affair differed from other crises because there were so many unanswered questions. "We are trying to manage uncertainty. We are in a huge grey area of doubt," he said.

Cattle cull backlog, Page 8

Germany ends role in French missile

By Michael Lindemann in Bonn and David Buchan in Paris

Germany has withdrawn from a project with French companies to develop a new missile, partly because the British government rejected a German missile earlier this summer in favour of an Anglo-French competitor being built by British Aerospace and Matra.

However, German executives sought to play down suggestions that Germany had been annoyed by the British decision to prefer the Storm Shadow missile over the German KEPD 350. They said instead that Daimler-Benz Aerospace (Dasa) had decided a few weeks ago to withdraw from the Apache missile programme, being run jointly with Matra and Aérospatiale, because Germany's strategic requirements had changed and because the Apache technology was outdated.

"The Apache technology dates from the 80s while our missile is very much based on 90s technology," said a defence industry executive. Germany now needed a missile to hit smaller objects such as bunkers rather than airfields which the Apache had originally been designed to knock out.

Matra, prime contractor for the "runway-busting" version of its Apache missile, minimised the impact of Germany's pull-out from the missile programme which it said was developed and funded by France alone. The French company said the only contract that Dasa had with Matra for this version of the Apache was to adapt it for German Tornados and that whether or not it was fitted to the German aircraft was entirely up to Bonn.

Matra, which is part of the Lagardère group, stressed the German decision would not affect either the Storm Shadow programme or a similar cruise missile developed for the French air force. Lagardère, whose share price fell briefly on news of the German decision, hinted that the leaking of Bonn's move might have been designed to destabilise it during its contest with Alcatel of France to buy Thomson, the state-owned French electronics group.

Germany regards co-operation with France on defence projects a matter of high political priority, making the Apache withdrawal unusual. However, executives said that other projects would not be jeopardised by the Apache decision.

Germany will now spend about DM300m ($197m) - the sum earmarked for Apache development – on the KEPD 350 instead. Talks are under way with other countries, including Sweden, which has been working with the Germans on the KEPD 350.

Belgium budgets for monetary union

By Neil Buckley in Brussels

Belgium set its sights firmly on monetary union yesterday with a 1997 budget aimed at meeting the Maastricht convergence criteria by cutting the budget deficit to 2.9 per cent of GDP and substantially reducing government debt.

Mr Jean-Luc Dehaene, prime minister, also committed his government to wide-ranging reforms of the legal system, following recent scandals surrounding a paedophile murder case and new arrests connected with the 1991 murder of a former Belgian deputy prime minister.

The budget, based on a conservative 1997 growth forecast of 2.1 per cent, included BFr80bn ($2.55bn) of measures aimed at cutting the budget deficit to 2.9 per cent – 0.1 points below the 3 per cent target for qualification for monetary union.

It also included BFr367bn of debt reduction measures, aimed at reducing the debt by four points to 127 per cent of GDP next year.

That is more than double the 60 per cent Maastricht target, and still the highest in the European Union. But Mr Dehaene confidently predicted this would be sufficient to convince Belgium's partners that the debt was on a firmly downward trend.

Mr Dehaene added that structural measures, including pensions and social security reforms, would keep the primary surplus on federal and social spending above 5.5 per cent – the highest in the EU. That would allow a "reverse snowball effect" or rapid reduction in debt.

"The 1997 budget is not a transition budget. It can justly be called a turning point budget," Mr Dehaene told the Belgian parliament.

But Belgian economists criticised the budget for relying too heavily on one-off measures and accounting tricks, rather than structural reforms. Some echoed the views of opposition MPs that Mr Dehaene had made disappointing use of temporary special powers he won from parliament to legislate on the budget by decree – clearing the way for him to take unpopular steps.

Primary federal spending is to be cut by BFr17bn, including cuts in subsidies to public companies, and in international aid and military spending. Social security spending will fall BFr23bn, including health care savings, reduced child allowance rates, and the effects of an increase, phased over 13 years, in the retirement age for women from 60 to 65 – the same as men.

Revenues will rise by BFr23bn, including excise and petrol tax increases, and tax changes on some savings instruments. Special measures, including a clampdown on tax fraud, will bring in an extra BFr10bn.

Non-fiscal revenues will increase BFr10bn, mainly through a plan to sell off publicly owned properties.

Debt reduction measures include use of a BFr222bn foreign exchange surplus to cut foreign currency debt, and BFr70bn of asset sales, including partial privatisations of Crédit Communal, the municipally owned bank, and ASLK-CGER, the bank and insurance company.

EUROPEAN NEWS DIGEST

French textile aid questioned

French government aid to its hard-pressed textile industries is to be scrutinised afresh by the European Commission because of concerns that the assistance is distorting competition. Brussels fears that the use of FFr2bn ($400m) of aid to reduce employers' social security charges for lower-paid workers in the textile, clothing and shoe industries, in return for a commitment to maintain existing jobs and employ more young people, could affect competitors in neighbouring countries.

German textile producers have called on the Commission to veto the plan, arguing that it could drive small German producers out of business.

According to the Commission the French government has not stuck to its original plan for the aid, which was to create jobs and assist the young unemployed. It would be accompanied by a reduction in working hours and the promotion of part-time working.

Brussels insists much of the aid to the sectors is being used to pay overtime to employees working longer hours as a result of changes to working practices, agreed by unions. The French authorities argue the payments have had little impact on competition. *Emma Tucker, Brussels*

Simitis pledge to Cyprus

Mr Costas Simitis, the Greek prime minister, promised yesterday to help the Cypriot government "restore its territorial integrity" by peaceful means after watching a military parade at which a dozen T-80 Russian tanks, newly delivered to the island, were on prominent display.

"Defending Cyprus is like defending Greece," said Mr Simitis, who also stressed that the problem of the divided island should be resolved through diplomatic efforts. Insisting that close defence co-operation between Athens and Nicosia was consistent with efforts to pursue a settlement, he said peace talks would not be productive if one side was stronger than the other.

The parade, marking the 36th anniversary of Cyprus's independence from Britain, also included French AMX-30 B2 tanks, sophisticated anti-aircraft batteries, field guns and Milan rockets. *Andreas Hadjipapas, Nicosia*

Cardinal Daly steps down

Cardinal Cahal Daly, spiritual head of Ireland's 4m Roman Catholics, stepped down as Primate of All Ireland and Archbishop of Armagh yesterday, his 79th birthday.

A philosopher by training, Cardinal Daly has steered the church through a turbulent period in Northern Ireland's history and a series of sexual scandals which tarnished its reputation in the Irish Republic. He is also well known for his forthright condemnation of Irish Republican Army violence.

Previously the bishop of Down and Connor for eight years, he had effectively been spiritual head of Belfast's Catholics. He was in the frontline of Northern Ireland's political and sectarian conflict. He will be succeeded by Bishop Sean Brady, who has been assisting him since his appointment as coadjutor (archbishop-in-waiting) in December 1994. *Reuter, Dublin*

France puts brake on TGV

France is to scale back a timetable for developing its TGV high-speed train network over the next two decades because of financial constraints, Mrs Anne-Marie Idrac, transport minister, said yesterday. Outlining plans for the next 20-25 years, she said original proposals had been drawn up against budget estimates which were not "realistic".

She said development would concentrate on so-called pendular train technology, in which high-speed trains can operate on existing train lines. *AFP, Paris*

Military doubt on reform

French military chiefs have told the government that the wholesale overhaul of the country's armed forces now under way would seriously restrict their capacity for long-range action until the year 2000, according to Le Monde newspaper.

The pivotal point of the military reforms is to end conscription, which has existed for more than 200 years, and to create all-professional forces. Mr Chirac pushed through his modernisation plan precisely to increase the military's capacity for long-term actions overseas. The defence ministry was not immediate available for comment. *Reuter, Paris*

Amnesty castigates Turkey

Amnesty International yesterday launched a worldwide campaign to highlight what it describes as a "steady erosion of human rights in Turkey" in the 1990s.

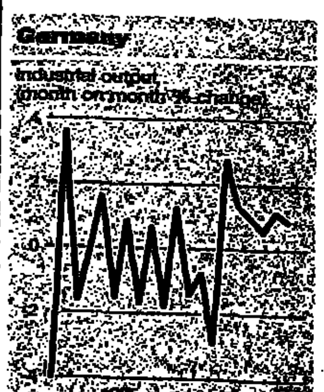
Its secretary general Pierre Sane told a news conference that, in the name of national security, Turkish authorities had attempted to excuse, ignore or cover up torture, political murders and extrajudicial execution by the country's security forces.

"While the Turkish government has talked publicly of progress on human rights, the situation has in fact gone from bad to worse," Amnesty claims in a report released yesterday. It also criticises abuses by the Kurdistan Workers Party which has been waging a separatist struggle in south-east Turkey for 12 years.

Amnesty said freedom of expression was increasingly threatened in Turkey. Journalists faced "a real risk of disappearing, being shot dead or beaten to death for their professional activities". *Kelly Couturier, Ankara*

ECONOMIC WATCH

German industrial output up



German industrial production expanded further in August, continuing a recovery that began in March, the economics ministry reported yesterday. Provisional figures suggested that Germany has overcome the prolonged growth pause that started in the middle of last year. Overall industrial output rose a seasonally adjusted 0.8 per cent in August from July and was up 0.7 per cent from a year earlier. Output in the west of the country rose by 0.3 per cent in August from July, and by 0.9 per cent on the year. In the east there was a 5.1 per cent rise on the month, but a 1.4 per cent fall year-on-year.

The economics ministry revised the figure for July month-on-month industrial output to an increase of 1.1 per cent, from the earlier figure of 0.2 per cent. The July year-on-year figure was revised to an increase of 1.1, from 0.5. In August, pan-German manufacturing industry output rose 1.7 per cent from July and 2.4 per cent from a year earlier. *Foreign Staff*

■ The Belgian-Luxembourg economic union's trade surplus fell in June to a provisional BFr23.9bn ($761m) from BFr45.8bn a year earlier.

■ Swiss consumer prices rose 0.1 per cent in September from August and were up 0.6 per cent year-on-year.

■ Spanish producer prices fell 0.2 per cent in July from June and were up 0.9 per cent year-on-year.

Kremlin takes the flak over funding

By Christia Freeland in Moscow

Prima ballerinas, generals and coal miners all lodged separate attacks on the Kremlin yesterday for starving vital Russian military, economic and cultural organisations of state funds.

The high-profile protests, which ranged from the threatened closure of Russia's most loved museum to a city-wide strike in the northern outpost of Vorkuta, signalled the beginning of a new battle between cash-starved state institutions and a cabinet of ministers determined to hold down government spending.

One of the most prominent warriors was General Igor Rodionov, Russian minister of defence, who warned yesterday officers might be reduced to selling the weapons they had been assigned to guard unless Moscow stepped up spending on the impoverished military.

The general said he was confident the army's financial woes would not provoke mutiny but he warned "chronic under-financing" could trigger disintegration of Russia's armed forces.

"The army has denied itself a lot of the things but if things go on like this the situation will become intolerable," Gen Rodionov said. He said hundreds of thousands of soldiers and their families lived below the poverty line and over 110,000 officers did not have housing.

The minister warned that the military could deteriorate further next year unless the government boosted the Rbs98,700bn ($18.3bn) earmarked for the armed forces in the draft budget for 1997, which, said Gen Rodionov, would cover only one-third of the army's needs.

His concerns were echoed by St Petersburg's elite, who warned in an open letter to Mr Victor Chernomyrdin, the prime minister, that Russia's famed arts institutions would be forced by a shortage of state funds to close their doors beginning today.

"Great countries are not judged merely by the cost of bread but by the condition of their museums, theatres and libraries. It is reprehensible to destroy the irreplaceable memory of past generations!" the letter, signed by a roll call of Russia's cultural luminaries, insisted. Affected institutions are expected to include the Hermitage Musem and the Marinsky theatre.

Like Russia's officers and its cultural leaders, workers in other sectors of the economy are suffering wage delays of several months. The problem of wage arrears is threatening to set off a wave of strikes.

Led by militant local coal miners, most of the city of Vorkuta went on strike yesterday to protest at a five-month delay in wages which union officials said threatened to paralyse the northern outpost.

Gen Igor Rodionov, Russian defence minister: warned that officers might be reduced to selling weapons Reuter

Copenhagen pledges action in biker war

By Hilary Barnes in Copenhagen

The Danish government yesterday promised a crackdown on biker clubs whose rivalry has led to six deaths in the past two years across the Nordic countries.

The government has decided to take action following a series of recent bomb attacks on biker "forts", or club houses, in Copenhagen, the capital, and other Danish towns, which put the lives of local residents at risk.

One car bomb explosion outside a clubhouse in the town of Roskilde, about 30km west of Copenhagen, last month blew out windows 200 metres from the scene of the blast, although no one was hurt in the incident.

Mr Poul Nyrup Rasmussen, the prime minister, told the opening session of parliament: "The biker war is causing the people to fear for their safety. We see the bikers deliberately placing their club houses in densely populated locations. This is completely unacceptable."

The Danish government is the first of the Nordic administrations to react by proposing special measures to give the police greater powers to tackle a biker war which was caused by an attempt by the Bandidos to break into territory long controlled by Hell's Angels.

The war has raged across the Nordic countries for the past two years, costing a total of six lives, including two Danes killed in shooting incidents this year.

Many more bikers have been injured, some seriously, although so far no one who is not associated with the biker clubs has been injured.

Legislation would be tabled this week to give the police powers to prohibit named persons from living in or entering specific buildings, the prime minister said, after every attempt to date by local authorities to oust the bikers has been foiled by tenant protection laws.

Mr Rasmussen said the government would also propose wider search and telephone tapping powers for the police; tougher sentences; better protection of witnesses; powers for summary confiscation of cash if people suspected of narcotics trade cannot document that it has been acquired legally; and better facilities to separate strong from weak prisoners in the country's prisons.

Furthermore, the immigration authorities would be given greater powers to expel non-Danish citizens who had been caught pushing narcotics on the streets, an activity which plagues some areas of the Danish capital.

The non-Socialist opposition parties, which have long called for wider police powers to tackle narcotics crime and violence, yesterday gave qualified support to the government's proposals.

Turkey under strong pressure to clean up the launderers

The international community's patience is wearing thin with Ankara's repeated promises to tighten its inadequate controls on the legalising of ill-gotten gains, writes **John Barham**

Turkey's freewheeling financial and property markets, its big informal economy and lax regulation make it a paradise for money launderers.

In the words of one investment banker in Istanbul: "I do not care who you are or how you got your money. You can come in here with a suitcase full of cash and no questions asked. The law tells me I do not have to care. I do not have to give any information on your activities to the tax authorities or to the central bank."

Nobody knows how much money from illegal activities is passed through Istanbul's financial system to make the gains appear legal in origin, but Turkey is coming under increasing international pressure to crack down on it. Last week, the Financial Action Task Force, a 24-nation body founded in 1989 by the Group of Seven industrialised countries to combat the international laundering of drug money, said transfers above $100,000 between Turkey and member-country banks would be subject to "special scrutiny".

"This may cause delays on local businesses' imports and exports, and we hope they will lean on the government to act," said a European diplomat. However, Turkish bankers doubt the disruption will be very significant. Some countries already require banks to run checks on fund transfers to and from Turkey.

A task force official emphasises that its measures are intended to shame governments into action rather than to punish non-compliance. "It does not happen often that a country is condemned for lack of [money laundering] legislation."

The Seychelles was previously the only country to have been put under the spotlight of the task force, which warned international financial institutions last February that a new Seychelles economic development law tolerated money laundering. Two months later, the Seychelles, not a task force member, adopted anti-money laundering legislation.

Turkey is a more important case. It is a member, has a reasonably large and sophisticated financial system, and lies along one of the world's busiest drugs corridors.

Interpol, the international police organisation, estimates that 75 per cent of heroin seizures and arrests in Europe involve Turkish traffickers or drugs passing through Turkey from Pakistan or Afghanistan.

Heroin seizures in Turkey topped 2,000kg in the first half of this year against nearly 3,500kg in the whole of 1995. Western diplomats believe this probably reflects both better detection and more smuggling.

Turkey first sent draft legislation criminalising money laundering to parliament in 1994, but the bill remains stuck in committee. The law would make it an offence, establish a body to monitor violations, and allow courts to seize laundered funds.

It would also allow "controlled deliveries". These enable police forces from various countries to track a suspect cargo through transit countries to its destination, giving them a better chance of arresting entire networks. Turkey co-operates in controlled deliveries on a case-by-case basis.

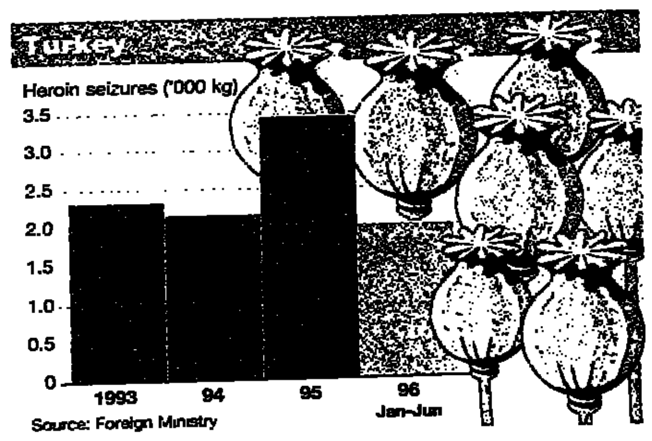
A government official said he expected MPs to approve the bill when parliament reconvenes later this month. But western governments are tired of Turkish promises. Parliament has failed to meet successive deadlines for enacting legislation, and diplomats warn that Turkey risks being thrown out of the task force if it does so again.

Nevertheless, Turkish regulators have introduced some controls, such as requiring identification for financial transfers exceeding TL1bn ($11,000) and stricter controls on casinos.

The coalition government, led by the Islamist Refah party, takes a strong stand against drugs, yet money laundering is still not illegal. There is a suspicion that while MPs are willing to criminalise laundering of drug money, they fear this could threaten the large, but tolerated, informal economy. Economists say the underground economy is at least a third as large as Turkey's official gross domestic product of $165.2bn.

Few politicians dare risk voters' wrath by closing it down, particularly as it is a big source of party donations. Yet distinguishing between money hidden from tax collectors and money earned from drug-running may be difficult.

Turkey has large, loosely regulated property, financial and trading industries – sectors favoured by money launderers. Powerful organised crime syndicates involved in these businesses – plus drug smuggling – have notoriously close links to some top politicians.



Source: Foreign Ministry

NEWS: INTERNATIONAL

Extra aid for Palestinians agreed by foreign ministers

EU criticises Israel's use of disproportionate force

By Lionel Barber in Luxembourg

The European Union yesterday criticised Israel's use of tanks and helicopter gunships to repel violent protests in the West Bank last week.

EU foreign ministers meeting in Luxembourg also approved an extra Ecu20m ($25.4m) in aid to Mr Yassir Arafat, president of the Palestinian Authority, to meet a shortfall in revenue, and authorised the Commission to negotiate a new trade accord with the Palestinians by the end of the year.

Europe's pro-Palestinian tilt reflects a desire to balance what some governments regard as a submissive approach by the US administration toward the hardline Likud government in Israel ahead of the Middle East summit in Washington.

A joint EU statement called on the Israeli authorities and the Palestinians to exercise the utmost restraint, to resume talks and to avoid resorting "to disproportionate force in particular the use of firearms, tanks and helicopter gunships."

The statement added: "(The European Union) calls on Israel to match its stated commitment to the peace process with concrete actions to fulfil its obligations" under the 1993 Oslo Accord.

In particular, EU ministers asked Israel to reconsider its decision to reopen the disputed Hasmonean tunnel under Jerusalem's old town, to reopen the borders with the West Bank and the Gaza Strip, and to withdraw troops from Hebron.

"The Israelis have to think about the tunnel," said Mr Klaus Kinkel, German foreign minister. He was referring to the flashpoint for the spate of violence which has led to 72 deaths.

Mr Kinkel said that without a reopening of the borders the mood among Palestinians would be "explosive". But he urged his colleagues not to put Israel in the dock. Other diplomats said Germany had expressed reservations about the EU's language on disproportionate force.

The EU trade pact with the Palestinians requires negotiations between the European Commission and the *Palestine Liberation Organisation*. It will take the form of an interim deal lasting five years while talks proceed between Israel and the PLO on a permanent arrangement.

The deal covers agriculture, transport and development aid as well as cultural and scientific matters. Since 1993, the EU has contributed about Ecu320m in grants for the development of the West Bank and Gaza Strip.

Clinton takes least risky option in calling summit

By Jurek Martin in Washington

There is an element of political risk in President Bill Clinton's decision to convene the emergency Middle East summit which began in Washington yesterday. But it may not have been as risky as the alternative – to do nothing until after the US presidential election on November 5.

Foreign policy advisers to Mr Bob Dole, already concerned that the Republican candidate has not been doing enough to challenge Mr Clinton on foreign policy, leapt into the fray on Monday with charges that convening the summit was a further indication of the mismanagement of US external affairs.

A bevy of former Republican cabinet members, led by Ms Jeane Kirkpatrick, the former ambassador to the United Nations, and Mr James Schlesinger, ex-defence secretary, spoke of "one failure after another" *and of claimed foreign policy* successes, as in the Middle East, which "blow up" in the administration's face.

But Mr Schlesinger, though not Ms Kirkpatrick, felt obliged to point out that Mr Dole himself was inclined to be "supportive" whenever the president was personally engaged in diplomacy, as he is this week.

That did not prevent the Dole campaign from issuing a statement expressing unequivocal support for Israel.

That must be seen as a clear appeal to the US Jewish vote and a criticism of the Clinton administration for openly preferring Mr Shimon Peres over Mr Benjamin Netanyahu in the Israeli election in May.

But Mr Netanyahu is not particularly popular among American Jews, who have also traditionally voted for Democrats in US elections. This was evident in an editorial this week in the New York Times, which reflects moderate Jewish opinion.

The newspaper warned Mr Netanyahu, as well as Mr Yassir Arafat, president of the Palestinian Authority, not to press confrontation too far and said the question of the archaeological tunnel in Jerusalem should be a negotiating "detail," not a matter of principle.

It also argued that any campaign gains for Mr Clinton should be seen as "incidental" against the more important and necessary exercise of US mediation in the face of last week's violent clashes.

Mr Warren Christopher, the secretary of state, has been careful to advise not to expect "miracles" in Washington, thus acknowledging that the outcome of this summit, unlike so many others in the past, has not been scripted in advance.

But with the US electorate disinclined to pay much attention to foreign policy, it may be sufficient for Mr Clinton to have been seen to have tried to bring recalcitrant parties back to the cause the peace. A "success" here might burnish his foreign policy credentials but failure might not be laid exclusively at his door.

Mr Christopher has also noted that the peace process has proved surprisingly "durable" in spite of previous challenges, including West Bank unrest and last year's terrorist bombings in Israeli cities.

The alternative – to allow events to take their course without prompt US intervention – might well have saddled Mr Clinton with exactly the sort of foreign policy problem he would like to avoid in the run-up to the election.

Wolfensohn, left, and Camdessus: their warnings on corruption prompt unease about political interference Reuter

IMF/WORLD BANK ANNUAL MEETING

Wolfensohn demands assault on corruption

By Robert Chote, Economics Editor, in Washington

Mr James Wolfensohn, president of the World Bank, yesterday called on national leaders to stamp out "the cancer of corruption", prompting unease among some African and Asian countries about greater western interference in their politics.

In his main speech to the annual meeting of the World Bank and International Monetary Fund, Mr Wolfensohn warned that corruption undermined electoral support in donor countries for aid programmes and humanitarian relief. In recipient countries, meanwhile, corruption "diverts resources from the poor to the rich, increases the cost of running businesses, distorts public expenditures and deters foreign investors".

Mr Wolfensohn warned developing countries that solutions to corruption could only be home-grown. "National leaders need to take a stand," he said, adding that the Bank would help member countries to implement national programmes that discouraged corrupt practices. Mr Michel Camdessus, the IMF's managing director, agreed in his speech that "countries must demonstrate that they have no tolerance for corruption in any form".

Over the weekend, Mr Wolfensohn told African representatives that development in their continent was being hampered by corruption, nepotism and a lack of accountability in government. But some African and Asian officials fear that financial support from the Bretton Woods institutions could become increasingly conditional on a western interpretation of "good governance".

"If that conditionality is strictly applied, it could take 15 years before the institutions are satisfied," said one official.

Mr Wolfensohn said the Bank could not intervene in the political affairs of its member countries but could provide "advice, encouragement and support". He added that he would not tolerate corruption in any of the programmes that the Bank supported.

The Bank has recently revised its loan documents and procurement guidelines so it can bar companies from Bank-financed contracts if they engage in "corrupt or fraudulent practices". The Bank also has the right to inspect the accounts and records of suppliers.

The heads of the two institutions also drew attention to the threat posed by the fragility of banking systems in many emerging market countries. Mr Wolfensohn claimed that one in five developing countries faced a banking crisis.

Editorial comment, Page 13

IFC fund to target smaller countries

By Patti Waldmeir in Washington

The International Finance Corporation, the commercial investment arm of the World Bank, yesterday said it would expand its activities to smaller and poorer countries whose markets were too risky or difficult to attract private capital.

The IFC is to establish a $40m fund to make small investments in countries including Albania, Azerbaijan, Bosnia, Cambodia, Laos, El Salvador, Ethiopia, Eritrea, Macedonia and central African nations.

This would be used to invest in projects with total costs of $250,000-$5m, with the IFC contribution expected to be $100,000-$2.5m in debt or equity.

"We are looking for ways to increase the IFC's impact in the poorest countries and most difficult investment environments," said Mr Jannik Lindbaek, IFC executive vice-president, announcing the three-year pilot programme.

The aim is to promote development of the private sector in countries which private investors avoid, and which the IFC has also failed to tackle up to now.

More than half the corporation's annual investment currently goes to a handful of relatively advanced developing countries, such as Brazil and Mexico. But these countries also receive the bulk of foreign private investment, leading to criticism that the IFC is merely duplicating the work of the markets.

The corporation wants to counter these criticisms, but it, unlike the World Bank, is strongly profit-orientated and investing in under-developed emerging economies could jeopardise its profits.

The IFC's challenge, said Mr Wilfried Kaffenberger, vice-president for operations, was "to do good projects at the edge of what the market will do, while also showing a bottom line". The set-up costs of the $40m Small Enterprise Fund would be $20m, for example, although this also would finance operations beyond the three-year initial phase of the programme.

Mr Kaffenberger acknowledged the risks involved in such investment.

"One is ultimately banking on the character and integrity" of the recipient, he said, rather than on detailed feasibility studies. The IFC would be looking at *family* businesses which, for a modest investment, could produce for the local market while offering "the best hope for job creation".

New focus on ensuring soundness of banking

By George Graham in Washington

The letters IMF, according to an old Washington joke, stand for: "It's Mostly Fiscal."

These days, however, the International Monetary Fund, along with its sister institutions such as the World Bank and the Inter-American Development Bank, has started to pay attention to the soundness of national banking systems *alongside its traditional* concern with budget policy.

At the weekend, the maintenance of healthy national banking systems became one of the "eleven commandments" endorsed by the Interim Committee, the IMF's main policy-setting ministerial committee, as a strategy for strengthening the *global economy*.

Governments have always been worried about bank failures, which can spill over from one weak institution to damage many other basically healthy ones. But the IMF's new focus on the issue reflects a greater recognition that without a sound banking system, it becomes much *more difficult for a government* to keep its economic policy on track.

Unhealthy banks tend to chase ever riskier loans in an effort to stay afloat. That in turn makes them less responsive to the government's attempts to steer monetary policy, and damages the real economy by channelling credit away from the sectors that could make the best use of it.

IMF officials studied their 181 member countries and found that, over the last 15 years, no fewer than 133 had suffered significant problems in their banking sectors. In 36 countries, ranging from *Mexico and Argentina* to Spain and Malaysia, the problems reached the level of a full-blown crisis.

In their analysis of the causes of banking problems, IMF officials emphasise that the primary responsibility *for keeping a bank healthy* lies with its own management. But they are also keen to promote better supervision, improved accounting and corporate governance rules and stronger capital adequacy ratios.

Central bankers in the *Group of Ten* industrialised countries have for the last 20 years moved closer to each other on supervisory and *capital* adequacy standards *by adopting the framework* developed by the Bank for International Settlements in Basle.

The Basle rules require banks to maintain a capital base equivalent to at least 8 per cent of their loans and other assets, weighted according to their level of risk.

But Mr Andrew Crockett, the BIS's head, warns that *many banks appear to be* complying with this ratio just days before they collapse.

"When you have a figure like 8 per cent, the danger is that people think that is enough," he told a conference *on banking soundness* organised by the IADB in Washington to coincide with the IMF's annual gathering of finance ministers and central bank governors.

Mr Pedro Pou, governor of the central bank of Argentina, *has set a higher ratio of* 11.5 per cent for his country's banks, but warned that the whole Basle framework might need further adaptation to meet the needs of emerging markets in Latin America and elsewhere.

"Our regulations may need to be more complex as our risks are more complex," he said.

Mr Pou suggested that loans might need to be weighted in line with their interest rate, on the assumption that higher rate loans are likely to be riskier.

The IMF, meanwhile, still finds gaping holes in *many* of the international standards used to measure banks' health, especially in the accounting field. Mr Michel Camdessus, its managing director, wants to press for the development of new international guidelines to meet a threat he still sees looming.

"Despite all these *initiatives*, we are not yet at the point where it is possible to *consider that* the situation is under control," he said.

Nigeria to revive economic reform

By Our Foreign Staff

General Sani Abacha, Nigeria's military ruler, yesterday announced the creation of six more states and the establishment of an economic think tank.

In a separate development, the country's finance minister Anthony Ani said in Washington the interest rate ceiling of 21 per cent had been abolished.

The moves follow Monday's approval of five of the 15 political parties applying for government recognition. They suggest that Gen Abacha is determined to press ahead with his own programme and *timetable* for a return to democracy, despite international calls for early multi-party elections, while at the same time reviving stalled economic reforms.

The five parties qualifying for registration were headed by the United *Nigeria Congress* Party of Yahaya Gusau.

All the five are conservative, and there appears to be little to choose between them.

Nigeria will now have 36 states. Gen Abacha has argued that state creation decentralises power, but critics see it as an inefficient extension of the country's bureaucracy, placing more patronage in the hands of central government without devolving significant authority.

Gen Abacha, *speaking* on Nigeria's 36th independence anniversary, raised hopes that the country's lapsed economic reform programme may be put back on track with the appointment of an economic planning committee, headed by the country's former civilian administrator, Chief Ernest Shonekan.

The committee will sit for between nine and 12 months, charged with drawing up a blueprint for Nigeria's development to be known as "Vision 2010".

Speculation that the government *is anxious* to resume an economic reform programme was reinforced by the decision to lift the ceiling on interest rates, a significant sticking point blocking agreements with the World Bank.

The clearest test of government intentions, however, remains exchange rate policy. Both World Bank and IMF officials have made clear that the current two-tier system, which allows government officials and sympathisers to buy hard currency at a discount, must end.

Emergency talks on ship subsidies

By Guy de Jonquières in London and Anne Counsell in Washington

The US and other leading shipbuilding powers will hold emergency talks this month on the future of an international agreement to curb subsidies in the sector, which has been put at risk by the failure of Congress to approve it.

The accord on subsidies, which took five years to negotiate in the Organisation for Economic Co-operation and Development, was thrown into uncertainty on Friday when intense opposition from leading US shipyards blocked a decisive vote in the Senate.

The Clinton administration, which supported the agreement, has not said whether it plans to ask the next Congress to endorse it. Mr Donald Johnson, secretary-general of the OECD, was yesterday urging Washington to clarify its position.

Industry experts warned that a further long delay in US ratification of the deal, which was due to take effect at the start of this year, would lead to a fresh outbreak of price-cutting in the industry.

That could increase pressure on European governments to step up state support for troubled shipyards. European subsidies and tax breaks to the industry, worth almost $1bn a year, are the largest in the world.

A US trade official yesterday said the planned meeting, on October 17 and 18, would provide an opportunity to "sound out the intentions" of the other signatories to the agreement – the European Union, Japan, South Korea and Norway.

"At this point we are not walking away from the agreement," the US official said. "We need to discuss it with other parties, as well as with other domestic interests."

The official said the other signatories, which have all ratified the accord, could choose to go ahead without the US.

However, that option appears to be ruled out by a requirement that the agreement must be ratified by all parties.

Any US proposal that the deal be renegotiated to meet objections in Congress would also face serious obstacles.

Korea and Japan are opposed to any such move and might use it as a pretext to withdraw from the agreement altogether.

The US legislation foundered on opposition from six large defence shipyards, which want federal subsidies to help them re-enter the merchant shipbuilding sector.

They lobbied successfully for an amendment designed to exempt such subsidies from the OECD disciplines.

Even though Senator John Breaux, who led the fight for approval of the OECD deal, agreed to incorporate much of the amendment into the final legislation, the shipbuilding lobby prevented it from coming to a vote before Congress went into recess ahead of US elections on November 5.

Seeking clarity: Donald Johnson, OECD secretary-general, has urged the Clinton administration to outline its position

Japan puts off insurance clash

By Michiyo Nakamoto in Tokyo

The US and Japan agreed yesterday to continue talks on the deregulation of Japan's insurance market until mid-December, in a move that puts off a possible confrontation until after elections in both countries.

Mr Wataru Kubo, Japan's finance minister, and Ms Charlene Barshefsky, acting US trade representative, met in Washington and agreed to settle a bilateral dispute over opening Japan's insurance market by December 15.

Japan's ministry of finance, however, yesterday announced a number of deregulation measures in the insurance market and a temporary restriction on Japanese insurance companies' entry into the so-called third sector, in a bid to ease tensions with the US.

The US has charged that Japan's decision to allow domestic companies to enter the third sector, which covers products such as personal accident insurance and sickness insurance, through their subsidiaries breaches a 1994 US-Japan agreement not to introduce "radical change" into the sector where foreign companies have carved a profitable niche for themselves.

The US has also claimed that Japan agreed to deregulate other, so-called primary sectors of the insurance market to provide greater opportunities for foreign insurance providers, before it introduces greater competition into the third sector.

In its compromise proposals, the ministry of finance has offered to put a hold on the entry of domestic insurance companies into accident insurance, stand-alone cancer insurance and medical insurance until the end of December.

The finance ministry has also agreed to allow marketing of vehicle insurance through direct-mail.

WTO calls for Korea reforms

By Frances Williams in Geneva

South Korea should accelerate trade liberalisation to match its growing stature as a global economic power, the World Trade Organisation said yesterday. In a report discussed by WTO members this week, the WTO secretariat says South Korea, the world's 12th biggest exporter of goods, has taken important steps in recent years to lower trade barriers and deregulate its economy.

Tariffs have been slashed to 7 per cent on average for manufactured goods, quota restrictions have been abolished in almost all sectors, many non-tariff barriers have been removed and there has been gradual liberalisation of inward foreign investment in industry and services. However, the report notes that certain sectors, including agriculture and some services, remain "largely insulated" from international competition, creating economic distortions at home and political frictions abroad.

"Significant portions of the transport, communications, financial and business services industries are still restricted for foreign investors," the WTO points out.

Moreover, reforms have often been motivated primarily by outside pressures, including world trade negotiations. "While the authorities are committed to continued investment and trade liberalisation, their general approach has remained somewhat reactive in sensitive areas," the report adds.

Concern is also expressed over the narrow focus of Korean exports, with semiconductors and cars accounting for nearly 25 per cent of all merchandise exports. Its widening trade deficit, the WTO says, is mainly due to its skewed industrial structure since principal industries such as electronics and motor vehicles rely heavily on imported components.

Other criticisms by trading partners concern safety and health regulations, discriminatory taxation of spirits and government procurement procedures, as well as continued high trade barriers in agriculture, fisheries and many services.

Still, South Korea has gone beyond its commitments as a developing country in protecting intellectual property, and will open the bulk of its domestic telecommunications sector to foreign competition in 1998.

US vehicle group to invest heavily in rapidly growing car market

GM to tighten grip on east Europe

General Motors, the world's biggest vehicle maker, said yesterday it would boost investment in central and eastern Europe to reinforce its position as one of the leading manufacturers in the region.

Mr David Herman, chairman of GM's Opel subsidiary in Germany, which is spearheading its push into the expanding car markets of eastern Europe, said the group was looking at further investments in the former Soviet Union and additional spending on existing projects in eastern Europe.

GM will underline its commitment today when Mr Louis Hughes, head of GM's international operations, performs a ground-breaking ceremony at the company's latest car plant near Katowice in southern Poland.

GM, which expects demand for cars in central and eastern Europe to soar by 80 per cent in the next decade, has already allocated over DM1.2bn ($787m) to the region, making it one of the biggest investors. Although it ranks behind Volkswagen in terms of spending, GM's investment has been spread more widely.

The DM470m Polish factory is scheduled to produce 72,000 cars a year when output starts in 1998. The integrated plant, which will employ about 2,000 people, will include metal stamping, welding and paintwork as well as final assembly. The factory will produce a low-cost family vehicle based on the Opel/Vauxhall Astra, with local content rising to 60 per cent after two or three years.

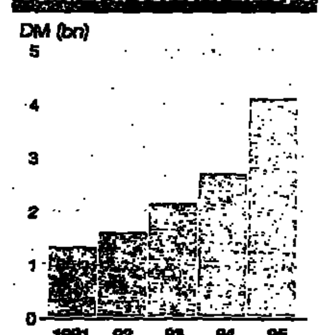
GM last week opened a cylinder head plant at its engine and car assembly plant at Szentgotthard in western Hungary – the culmination of a DM700m investment drive by GM since 1990. The new cylinder head plant and associated investments will double engine output in Sventgotthard to 460,000 units a year on three shift working.

The DM235m cylinder head plant is the world's first to use an innovative parallel production process, rather than a conventional transfer line. The "agile cell system", which is being replicated at new GM engine plants in Australia and Brazil, allows a wider product mix and greater flexibility in reacting to changes in demand than conventional machining, according to Mr Albert Lidauer, managing director of Opel Hungary.

The operation reinforces GM's position as one of the biggest foreign investors in Hungary, with more than 900 employees. Opel's local subsidiary is Hungary's most profitable company and ranks fourth in terms of sales and in the top three for exports. The 1.4 and 1.6 litre Ecotec engines built in Hungary are exported to GM plants in Europe and Brazil, while locally produced vehicles have been sold in Italy and China as well as Hungary, where Opel has 20 per cent of the market.

GM's latest investments highlight the growing importance of central and eastern Europe for the world's vehicle groups. In the past month, VW has opened a car assembly plant and paint shop at its Skoda subsidiary in the Czech Republic.

German investment in central & eastern Europe



Source: Federal Economics Ministry

Low costs lure Germans to east

By Frederick Stüdemann in Berlin

German companies have markedly stepped up investment in central and eastern Europe and could double trade with the region by 2000, according to a report by an employers' lobby group.

German investment in central and eastern Europe rose to DM4.1bn ($2.8bn) or 8.57 per cent of Germany's total investment abroad in 1995. This makes central and eastern Europe the third most popular destination for investment by companies after the European Union and North America, which accounted respectively for 62 per cent and 17 per cent.

According to the Federation of German Industry (BDI), the lobby group, which conducted a survey of 470 companies together with the Institute of the German Economy (IW) and the German East-West Trade Committee, cheaper production costs were the main attraction for companies investing in central and eastern Europe.

The most popular target countries were Hungary, which accounted for 44.5 per cent of the respondents' investment and the Czech Republic with 30.3 per cent. Russia, where companies said they were more concerned with securing a position in the market, accounted for 6 per cent.

The survey respondents said that contractual and political uncertainties and generally poor economic conditions in countries further east were a significant brake on investment.

Burma eases fears over oil payments

By Ted Bardacke in Bangkok

Prices of petrol in Burma have returned to normal as the country's apparent fuel shortage has suddenly disappeared.

Oil industry executives said the roots of panic buying a week ago are now seen to be found in attempts by the government to play off Japanese trading companies against each other that backfired. An apparent lack of foreign currency was not immediately to blame.

Petrol yesterday was selling for 250 kyat ($US1.56 at market rates) a gallon or less in the capital Rangoon, down from 400 last week when prices doubled and long queues appeared at service stations.

The problems coincided with a statement by Mitsui – which last year prised a supply contract for oil away from its rival, Marubeni – that Burma's military regime was behind on payments.

Mitsui has recently been seen to be winning the race among Japanese trading houses in Burma, and Asian diplomats say Marubeni is under pressure to regain some of the business lost to its rival. Burma's decision to delay payments now appears to have been an attempt to exploit this rivalry in return for commercial concessions.

Mitsui declined to comment directly, but Mr Mike Nagai, its general manager in Rangoon, acknowledged that Burma was seeking finance for the contract. "It is standard for a developing country to seek a financing agreement when negotiating any major purchasing agreement," he said.

He denied suggestions that Burma was trying to persuade Mitsui to transform the overdue payments into equity in other local projects. His company did not believe in "mixing contracts", though it had many projects in Burma which it continued to pursue.

Diplomats originally estimated the amount owed to Mitsui to be around $30m. Oil industry executives now say the number could be twice that. These arrears prompted speculation that Burma, which in 1995 owed $356m to international creditors but paid only $218m, was on the verge of a balance of payments crisis.

But since Friday three vessels carrying 6,000 tonnes of diesel each, some of it supplied by Mitsui under a separate contract, and one vessel carrying 2m gallons of petrol, supplied by Mitsubishi, have begun unloading their shipments at Rangoon port. Port officials say they have been told to expect another shipment of between 50,000 and 60,000 tonnes of crude oil – valued at around $10m – in the coming days. Burmese businessmen say the large expected shipment is likely to have been supplied on credit by Marubeni.

Burmese officials claim that the shipment shows the government has hard currency to keep the country going and that the panic was caused in part by a speech by democracy activist Ms Aung San Suu Kyi referring to Mitsui's contract.

Mr Thein Lwin, director of the ministry of energy's planning department, says the government will finalise a new long-term supply contract soon, probably with another Japanese company.

Pressure grows for sanctions

By Ted Bardacke

International pressure on Burma is intensifying after the military regime's announcement that it had detained more than 500 supporters of Ms Aung San Suu Kyi's National League for Democracy and that access to Ms Suu Kyi's home would be blocked indefinitely.

At the insistence of the UK, senior European Union officials yesterday discussed possible measures that could be taken against the regime. Denmark recently proposed economic sanctions against Burma after Mr James Nichols, its honorary consul in Rangoon and financial backer of Ms Suu Kyi, died in jail after being imprisoned for operating a fax machine without permission.

"The UK believes it will be necessary to take further international action against the Slorc (Burma's ruling army council)," the British foreign office said. In the past the UK has opposed unilateral EU sanctions.

Burmese authorities said yesterday that in the past several days they had arrested 159 people to prevent an NLD party congress from taking place over last weekend. An additional 400 people were rounded up "to preserve the peace and tranquility of the state" after some NLD supporters approached the roadblocks which have been erected around Ms Suu Kyi's house since last Friday. Eighty-eight of those detained have subsequently been released.

As for the future of the roadblocks and Ms Suu Kyi's regular weekend speeches, which attract thousands of supporters and are the NLD's main forum for disseminating information, senior defence ministry officials strongly hinted that public access to Ms Suu Kyi would continue to be barred.

"The government has repeatedly acknowledged that holding this kind of weekend meeting violated existing laws," said Col Kyaw Thein. "I don't know what lies ahead" but measures would be taken against "anything that violates existing laws".

Canberra abandons public inquiry on media

By Nikki Tait in Sydney

The Australian federal government yesterday abandoned election pledges to hold a full public inquiry into the country's media ownership rules.

Defending the decision to issue a discussion paper instead, Senator Richard Alston, communications minister, claimed that a full public inquiry into the highly sensitive subject "wasn't likely to achieve the result of having a sensible and balanced discussion of the major issues".

He added: "It was more likely to turn into a media circus."

The government's move brought an immediate political outcry, with opposition parties claiming it was a clear breach of an election promise and suggesting the government had been "got at" by vested interests.

Ms Cheryl Kernot, leader of the Australian Democrats, largest of the minor parties, said: "To me it all smacks of our entitlement to be suspicious about who's got at them, what's changed their mind, and above all, that they still think it comes back to controlling the discussion."

Instead of the anticipated open hearings of a public inquiry – which would have seen the country's big media proprietors, such Mr Kerry Packer and Mr Rupert Murdoch, make personal submissions – interested parties are being invited to submit written comments on the issue by the middle of November.

Legislation will then be introduced into parliament next year, in the light of this discussion, according to Senator Alston.

Cross-ownership constraints currently prohibit anyone from controlling different types of media in the same geographical area. There are also limits on foreign ownership of Australian media assets, although these are more discretionary.

The government has suggested that reconsideration of these rules is warranted by changing technologies.

However, any rethink of the media constraints will have an immediate impact on the ownership tangle at John Fairfax, Australia's leading newspaper group and publisher of heavyweight papers in both Sydney and Melbourne.

Cross-ownership rules currently prevent Mr Kerry Packer, the Australian businessman, from lifting his stake in Fairfax above 15 per cent, while Mr Conrad Black, the Canadian media proprietor, is pegged at 25 per cent by foreign ownership contraints.

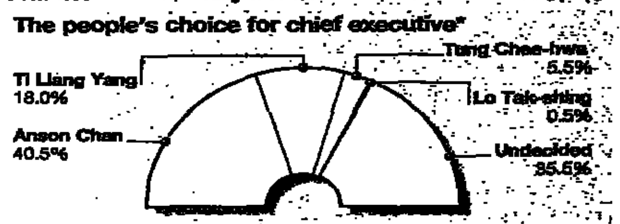
Both businessmen have, in the recent past, indicated they would like to raise these holdings, and Mr Black has expressed frustration at the slow progress being made by the new government on the issue since it took office in March.

Hong Kong sees race for leadership hot up

In the running

Peter Woo | Tung Chee-hwa | Ti Liang Yang

The people's choice for chief executive*



*Sunday Hong Kong Standard opinion poll published Sept 8, before Peter Woo announced his candidacy and Tung Chee-hwa said he was actively prepared to run. Mr Tung has since shown an increase in the opinion polls.

In racing terms worthy of horse-mad Hong Kong, the contest to head the post-colonial government is bringing late runs and jockeying for position as contenders enter the final stretch.

The past week has seen the field grow from three to five, the latest coming on Monday with the entry of Mr Peter Woo, a prominent tycoon. More rivals are likely before a decision is taken in November or early December about who will, in effect, be the guardian of the territory's promised autonomy after the transfer of sovereignty on July 1 next year.

Despite the stakes, or because of them, many question the contest's sincerity. Ms Emily Lau, an independent legislator, claims the issue is too important for Beijing to leave it to chance. China, she says, has already decided that Mr Tung Chee-hwa, the shipping magnate, is their man for the job.

According to this view, other candidates, Sir Ti Liang Yang, the former chief justice, Mr Lo Tak-shing, a solicitor, and Mr Arthur Garcia, a former judge of Eurasian descent, simply give the impression of a contest. When the winning name is given to Beijing for appointment, after selection in a secret ballot by a 400-member committee, itself chosen by a 150-member Beijing-appointed body, there will be little scope for surprises.

But while Beijing is expected to swing the result, manoeuvring has intensified and the outcome has become less predictable. The rising number of candidates threatens to split support, with Mr Woo drawing some of Mr Tung's business backers. More significant is the fact that Beijing appears undecided. "There is a real chance of a genuine competition," says a member of the preparatory committee. "There is not necessarily one Beijing view, nor one candidate they have in mind."

President Jiang Zemin is thought to favour Mr Tung, and signalled as much with a famous handshake earlier this year. But Prime Minister Li Peng and the New China News Agency, Beijing's de facto embassy in Hong Kong, lean towards Sir Ti Liang and Mr Lo, generally considered the hardline option. Mr Garcia, with no significant backers, is considered an outsider.

Mr Tung himself is playing a cagey game. Last month he announced he was "actively preparing" to put his name forward. He has since been canvassing the opinions of political and social groups and setting his corporate interests in order. But his cautious approach underlines his reservations about the post and the pressures it involves.

"I wouldn't wish this job on my worst enemy," said another businessman. "If you stand up for Hong Kong then you will be deemed unpatriotic. If you don't, then this place will be in trouble."

One aspect of the intensifying competition is that it makes the candidates address the issues at stake. Mr Woo sounded like any democratic contender when outlining his platform, stressing his commitment to social justice and the need to uphold Hong Kong's interests.

Like the low-profile Mr Tung he promised to address problems raised by his business holdings. Mr Woo owns part of a family trust that controls Wheelock & Co and Wharf Holdings, two of the territory's biggest business groups and part of the commercial empire of his father-in-law, the late Sir Y.K. Pao.

Sir Ti Liang is presenting himself as an independent candidate, with no conflicting commercial interests and aloof from the rivalry between Mr Woo and the Tung camp, which is backed by Mr Li Ka-shing, a top Hong Kong industrialist.

Also important will be how Mrs Anson Chan plays her cards. The chief secretary is by some distance the most popular political figure in Hong Kong. She is supported by business in the territory and abroad for her strong stance on the rule of law and the stability she would bring to the transition. Were it not for her close ties to the present administration she would be favourite for the top post.

Mindful of Mrs Chan's importance, Sir Ti Liang said this week that he would seek to retain her as chief secretary should he win the contest. Mrs Chan would also be wooed, probably with more success, by Mr Tung and Mr Woo. For most observers she is an important part of a winning ticket.

John Ridding

ASIA-PACIFIC NEWS DIGEST

Unemployment eases in Japan

Japanese unemployment eased slightly in August, but the labour market remained weak, suggesting joblessness will continue to be a drag on economic growth for the foreseeable future. The unemployment rate fell to 3.3 per cent – or 2.24m people out of work – from 3.2 per cent in July, the second consecutive month of decline from the record 3.5 per cent achieved in June, the government's management and co-ordination agency said yesterday.

That is low by western standards because of unusually loose criteria used by the agency to define people in work. Using comparable statistics, private sector economists believe that Japan's underlying unemployment rate is closer to the US, just under 5.5 per cent. That does not include Japan's many more surplus workers who are employed in unproductive jobs, because of companies' reluctance to sack people. Unemployment is especially acute among the young, where the August rate was 6 per cent for 15-24 year olds. *William Dawkins, Tokyo*

Foreign currency reserves rise

Japan's foreign exchange reserves at the end of September increased $1bn from the previous month to $215.03bn, rising for the 35th straight month and marking a new record for the 31st consecutive month, the finance ministry reported yesterday.

■ The number of mergers and acquisitions involving Japanese companies in the January-September period rose 18.1 per cent from the same period last year to 454, the highest number since 1990, Daiwa Securities reported yesterday. Outside Japan, Japanese companies were involved in 188 mergers and acquisitions, an increase of 31.4 per cent. *Gwen Robinson, Tokyo*

North Korea seeks meeting

North Korea has requested a "working level" meeting today with the United Nations Command, which represents US and South Korean military forces, in the expectation that it will demand the return of a submarine that ran aground in South Korea two weeks ago. North Korea has claimed that the submarine drifted into South Korean waters by accident owing to engine problems. It earlier refused to accept a UN protest that the submarine intrusion deliberately violated the armistice agreement that ended the 1950-53 Korean war.

North Korea has rarely requested a military armistice commission meeting in the last few years ever since it decided to abandon the armistice arrangement in a bid to press the US to sign a peace treaty. *John Burton, Seoul*

Vietnam cuts interest rates

Vietnam's central bank yesterday cut interest rates for the fourth time this year in a bid to stimulate economic growth and plug a widening trade deficit. The reduction comes a week after Vietnam's central bank chief, Mr Cao Si Kiem, said the communist-run country would reduce interest rates in tandem with a gradual devaluation of the currency, the dong, to boost growth. The central bank said that the interest ceiling on short-term dong loans was lowered to 1.25 per month, from 1.50 per cent. The figure at the beginning of the year was 2.1 per cent. *Jeremy Grant, Hanoi*

Mahathir confident over dam

Dr Mahathir Mohamad, Malaysia's prime minister, said yesterday that disagreements between the contractor and the Malaysian company overseeing construction of a US$5.5bn dam, Asia's biggest, are responsible for a delay in signing a contract. Commenting on Monday's postponement of a signing ceremony to award the Bakun dam contract to an international consortium led by Swiss-based ABB, , Dr Mahathir said he was confident current differences would be ironed out and the contract signed "eventually". *James Kynge, Kuala Lumpur*

Prosecutor quits over Rao bail pressure

By Lisa Vaughan in New Delhi

A prosecutor for the Indian federal police has resigned in protest after being pressed by the 13-party United Front government to grant bail to Mr P.V. Narasimha Rao in a case in which the former prime minister is accused of cheating an expatriate businessman of $100,000.

Mr Gopal Subramanian, senior counsel for the Central Bureau of Investigation (CBI), India's main criminal investigation agency, quit after allegedly receiving a letter from a CBI director ordering him not to object to Mr Rao's bail plea, on directions from the Law Ministry, the Times of India said.

India's leading opposition party, the Hindu nationalist Bharatiya Janata party (BJP), claimed the prime minister, Mr H.D. Deve Gowda, was trying to shield his predecessor.

Mr Rao, who led the Congress party to a humiliating defeat in elections in May after five years as prime minister, was ordered by the CBI on September 21 to appear in court this week on charges of conspiring with a Hindu guru to cheat the Indian expatriate businessman in a 1983 business deal. The court order prompted his immediate resignation from the party presidency of Congress – which has ruled India for all but four years since independence in 1947.

Lawyers had expected him to be arrested or jailed, and to apply for bail the same day. But petitioned by the police to change the venue of the court appearance for security reasons, the court exempted Mr Rao from appearing at the last minute and adjourned until October 9.

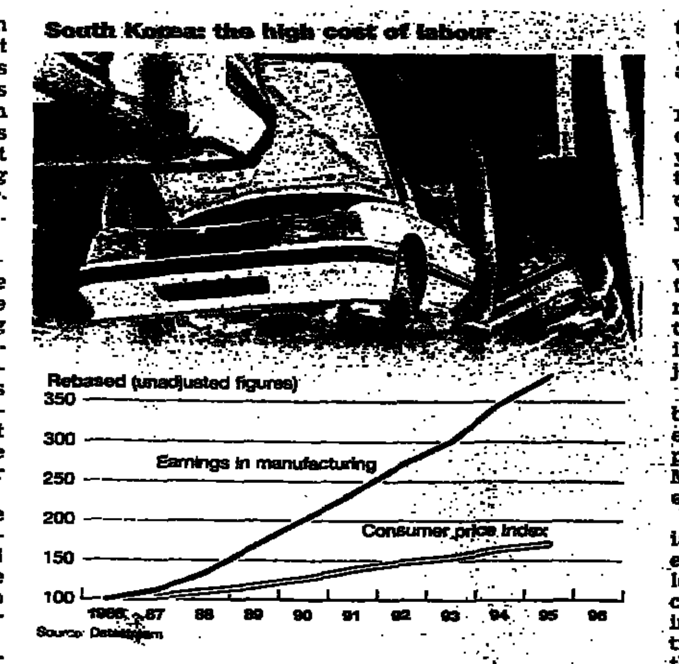
Political analysts said Mr Gowda, whose new minority coalition government depends on Congress support in parliament, had a private meeting with Mr Rao on the eve of his scheduled court appearance, and with India's chief justice over the weekend. This had raised suspicions that the prime minister is helping Mr Rao in order to ensure the stability of his government.

Mr Rao has also been charged in a separate forgery case, and his involvement in the alleged bribing of opposition MPs to secure a confidence vote is being investigated as well. He has denied all charges against him.

Maturing S Korea suffers labour pains

A job for life with the big groups could be a thing of the past, writes John Burton

South Korea: the high cost of labour



Source: Datastream

When one of South Korea's biggest industrial groups recently announced it was cutting 840 jobs through early retirement, it came as a shock to a nation that views a job at one of the big groups, or *chaebol*, as a guarantee of lifetime employment.

Indeed, the job cuts – nearly 40 per cent of the workforce – at the textile manufacturer Sunkyong Industries may be a harbinger of things to come. Corporate "downsizing" has become the new management slogan for the giant conglomerates, which are normally known for their ambitious expansion plans.

Korea's economic woes are forcing the *chaebol* to consider what economists and government officials have long recommended they do by streamlining their operations.

With total net profits for listed companies having fallen by 55 per cent during the first half of 1996, it is clear the *chaebol* must cut their production costs, which exceed those of other Asian tiger economies such as Taiwan and Singapore.

"Korea will have to go through a painful adjustment period, just as the US and Japan did, over the next five years if it is to recover its competitiveness," said Mr John Brakel, head of research at HG Asia Securities in Seoul.

An obvious place to start is labour. Nominal manufacturing wage costs have climbed on average 16 per cent annually over the past decade, outpacing productivity growth.

Wage costs for the *chaebol* have grown even higher since they provide generous social benefits, such as subsidised housing, to workers.

However, cutting jobs is difficult because of Korea's rigid labour laws. Although still regarded as a developing economy, its labour market can be as inflexible as those of advanced European industrial countries.

"Korean workers enjoy strong job security rights that make it difficult for companies to dismiss employees when they need to downsize," said Mr Rha Woong-bae, a former finance and economy minister.

Companies that cut jobs must offer generous redundancy payments. In Sunkyong's case, these included two years of school fees for children as well several years of wages.

Burdened with a bloated workforce that is expensive to reduce, most *chaebol* have normally chosen the alternative of expanding their industrial facilities to create jobs for excess workers.

This unusual strategy had been encouraged by the government, which favoured a policy of full employment. Moreover, it reflected Korean social values.

"Korea is a highly egalitarian society and anyone engaged in massive job losses would be blamed and criticised for creating social inequality," said an executive with Hyundai, one of the largest *chaebol*.

But the country's economic problems are changing official attitudes. The government is seeking a reduction in job security rights in return for giving trade unions greater freedom to organise.

The issue is being debated by a presidential panel that will propose labour law reforms as part of Korea's application to join the Organisation for Economic Co-operation and Development.

Meanwhile, most *chaebol* are taking a cautious approach to job cuts, in spite of Sunkyong's example. The Federation of Korean Industries, which represents the *chaebol*, earlier this month proposed a policy of a wage freeze and early retirements. But it quickly climbed down under union pressure.

Instead, *chaebol* executives have offered to freeze their wages next year in an attempt to persuade the workforce to do likewise. Few analysts believe the measure will be effective.

The government may also eventually decide to leave job security rights intact, at least for another year, since it wants to avoid a fight with the trade unions in 1997, when there is a presidential election.

Even if job security rights are eased, some *chaebol* will confront social pressure to avoid job cuts. "Unlike smaller companies, it's almost impossible for Hyundai to cut 10 per cent of its workforce since it would amount to 20,000 jobs," said the Hyundai executive.

Instead, the *chaebol* are finding another solution to the problem by moving production facilities to countries with lower wage costs, while allowing industrial jobs at home to wither away.

هكذا من الأصل

Curbs on encryption software to ease

By Louise Kehoe in San Francisco

The Clinton administration yesterday announced plans to ease export restrictions on powerful encryption software that can be used to scramble electronic messages to prevent eavesdropping by computer hackers.

The plan, announced yesterday by Mr Al Gore, the vice-president, is aimed at ending a fractious four-year debate that has pitted the US computer and software industries against law enforcement and intelligence agencies.

US industry wants to be able to export strong encryption software, which it believes is essential for the growth of electronic commerce. Consumers and businesses need assurances that credit card numbers and other sensitive information cannot be intercepted, business leaders maintain.

Moreover, US companies claim that, under current export restrictions which preclude exports of encryption technology with the exception of relatively weak scrambling schemes, they stand to lose up to $60bn of business by the year 2000 to foreign competitors offering stronger encryption software.

Law enforcement and intelligence agencies say, however, that they must be able to tap electronic transmissions to detect crime and to gather intelligence. They have demanded a "key escrow" scheme in which users of encryption devices would be required to deposit a descrambling key with a trusted third party. That key could be obtained by US authorities under court order, in much the same way that law enforcement agencies can today obtain court permission to tap phone lines.

The White House has struggled to resolve these opposing interests for the past four years. Previous proposals have been rejected by the industry as unworkable and inadequate. Privacy advocates have also raised objections to the key escrow plan, which they claim could be abused.

Under the administration's new proposal, the strength of encryption software that could be exported has been raised from 40-bits to 56-bits. The number of bits defines the strength of an encryption algorithm which, in practice, determines how long it might take to decrypt a scrambled message.

Software and computer companies would also be given greater latitude in finding ways to enable law enforcement authorities to descramble electronic data transmissions.

Although the plan is a compromise, it does not please all parties.

Mr Jim Barksdale, chief executive of Netscape Communications, the leading Internet software company, said it would not work. "The administration has got it wrong. This will not help US companies to do business overseas," he said.

Demonstrating their disillusionment with the Clinton administration over the encryption issue, Mr Barksdale and several other Silicon Valley executives endorsed Mr Bob Dole, the Republican presidential candidate, at a rally held at Netscape on Monday.

"The administration's proposal represents progress... yet further liberalisation will be needed," said Mr Robert Holleyman, president of the Business Software Alliance, an industry group.

Colombia eyes mines sell-off

By Stephen Fidler, Latin America Editor

The Colombian government expects to raise $2.5bn-$3bn from a series of mining and energy privatisations and concessions it expects to complete next year.

Mr Rodrigo Villamizar, minister of mines and energy, said in London yesterday that the sales included a 50 per cent stake in El Cerrejón, the largest open cast coal mine in the world, which could raise $1bn. Exxon of the US owns the remainder.

The government plans to separate the mine, for which it will grant a concession until 2026, from the transport operation and sell the two separately. "We are counting on having that transaction finished by mid-1997," the minister said.

This, with other coal from new areas being offered by the government, could raise Colombia's production to 40m tonnes a year by 2005, from 21m tonnes now. This would see it become the third largest coal exporter.

Other sales include the government's 47 per cent stake in the Cerro Matoso nickel mine, producing an annual 1.6m lbs of nickel, which is operated by Gencor, the majority shareholder. The government intends to extend this concession beyond 2008 for at least another 15 years.

The government also aims to have privatised seven electricity generating plants by the first quarter of next year. They would account for about 20 per cent of national capacity and their minimum value had been assessed at $1.05bn, Mr Villamizar said.

The government was "seriously considering" privatising in the first half of next year the Bogotá and Atlantic Coast electricity distribution companies, which together serve 10.5m people. To do this the giant Guavio plant would be separated from the Bogotá company and, because of its heavy debts which make a sale difficult, would be offered in concession to a private operator.

The government is also proposing to offer exclusive distribution rights for gas in six areas of the country, with the transportation system remaining in government hands.

Menem throws down labour gauntlet

Few Argentines would deny that unemployment, now at more than 17 per cent, was the country's most urgent problem. Yet most balk at the proposed solution of President Carlos Menem: make it easier and cheaper to hire and fire.

Attempts to make the labour market more flexible hit at the heart of the ideology of Mr Menem's Peronist party. Under General Juan Domingo Perón, who governed from 1946 to 1955, the government increased workers' rights and benefits, and built up trade union power.

As a result, according to Ms Carolá Pessino, chief adviser on labour issues at the economy ministry, Argentina has been left with a rigid labour market in which powerful unions set national labour contracts which small and medium-sized companies simply cannot follow.

The result, she says, is an estimated 5m people working on the black market – and therefore not paying taxes – and an economy that does not create sufficient jobs. From 1991-1994 gross domestic product grew at an average rate of nearly 8 per cent a year, yet demand for jobs outstripped supply and unemployment rose from 6 per cent to a peak of more than 18 per cent.

Argentina's payroll taxes, among the highest in the world, are much to blame, says Ms Pessino. These create what she calls a "tax wedge" – the difference between a worker's nominal wage and the employer's actual expenditure – of nearly 40 per cent. This used to be higher, but has been brought down as the Menem administration has reduced tax discrimination against labour.

The tax wedge in the US is only about 20 per cent, says Ms Pessino, but Argentina's high costs could be a blessing in disguise. "We can lower labour costs without reducing wages, whereas in the US, to tackle unemployment, wages had to go down."

According to a recent study by the World Bank, a 10 per cent reduction in labour costs would produce a 5 per cent rise in Argentine labour demand. Ms Pessino believes that, given the right circumstances, Argentina should be able to cut unemployment to single digits, although she warns the process will take years.

Mr Menem, who promised to "pulverise" unemployment in his second term, is due to send his labour bill to parliament next week. New legislation will enable employers to negotiate labour contracts at company level, reducing the power of unions to fix wages and conditions on a nationwide basis.

This will give companies greater control over working hours, job demarcation, holidays and bonuses. There are plans, for instance, to allow a working day of up to 12 hours in peak periods, to be compensated for by time in lieu. Currently, the working day is set at eight hours.

Another part of the bill will replace statutory notice and severance pay with accounts for each worker, which would be drawn on in the case of dismissal. The aim is to lower employer costs, so funds built up in individual capitalisation accounts would tend to be less than current severance payments. Under current legislation, according to Ms Pessino, employers can end up paying four months wages to a dismissed employee of only three months' standing.

Union representatives, not surprisingly, see the proposed changes as an attack on workers' rights, as well as on their own power base. "They will bring job insecurity, greater poverty and will do nothing to solve unemployment," says Mr Gerardo Martinez, former general-secretary of the CGT union federation. Making it easier to fire workers might actually increase unemployment, he says.

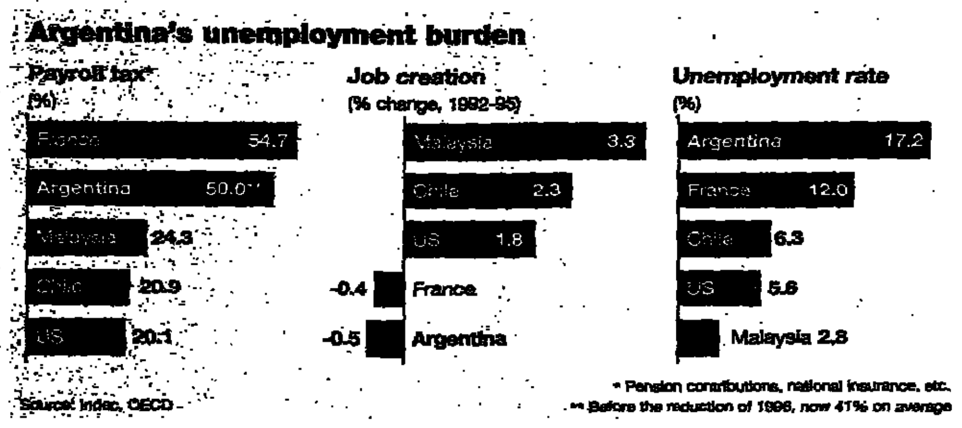
Many observers suspect the real purpose of legislation is to lower wages. Because of Argentina's monetary system, which effectively prohibits devaluation, one of the routes to greater competitiveness is salary reduction. "The World Bank is trying to produce deflation of wages and prices at the expense of the working class," says Mr Carlos West Ocampo, chief spokesman for the CGT.

There is also opposition to reform inside the Peronist party, where some legislators are union representatives. Given Mr Menem's low popularity and the approach of mid-term parliamentary elections in 1997, it is not certain he can rally his increasingly undisciplined party to back reform.

Mr Menem rejects suggestions he has lost political authority. "It is President Menem who runs this country, not the unions," he says. "I am stronger than ever."

In seeking radical labour reform, the president has found the perfect vehicle to test whether or not such self-confidence is merited.

David Pilling



Source: Indec, OECD

* Pension contributions, national insurance, etc.
** Before the reduction of 1996, now 41% on average

US index of key indicators hits high

The US index of leading indicators rose 0.2 per cent in August to 103.3, its highest ever level, a business analysis group said yesterday, writes Michael Prowse in Washington.

The Conference Board reported that the index rose 1.7 per cent in the six months to August, indicating the economy was likely to expand steadily well into next year. The index is designed to give six to nine months' warning of turning points in economic activity.

The group said seven of the 11 components of the leading index rose in August.

Separately, the national association of purchasing managers said its index of manufacturing activity declined modestly to 51.7 per cent in August, from 52.6 per cent in July. Readings above 50 per cent indicate expansion of the manufacturing sector.

The drop in the index reflected declines in indices measuring the growth of production and employment. However, an index of new orders rose for the second consecutive month to 56.3 per cent against 55.6 per cent.

Sandinistas give investor pledge

The Sandinista Front has promised to embrace the free market if it wins Nicaragua's presidential election on October 20, Reuter reports from Managua.

Polls show Mr Daniel Ortega, the former left-wing president and Sandinista candidate, chipping away at the lead of Mr Arnoldo Alemán, from the right-wing Liberal Alliance. The two candidates were virtually level in the latest polls.

A field of 22 other candidates trails badly. If no one receives at least 45 per cent of the vote, a second round between the two front-runners will be held.

"A Sandinista government will obey the rules of the free market and give foreign investors a warm welcome," Mr Alvaro Fiallos, Sandinista campaign manager, said.

A Sandinista government would also continue the International Monetary Fund's tough structural adjustment programme, although seeking better conditions in some areas, and would welcome foreign assembly plants in its free-trade zone.

Nicaraguan business leaders have warned of negative economic consequences if the Sandinistas won.

BMW offshoot to invest in new Mini

Financial Times Reporters in Paris and London

Rover Group, the British offshoot of BMW, is to invest £400m ($620m) in a successor to the Mini, the small British car which has become a motoring icon to millions over nearly four decades.

Dr Walter Hasselkus, Rover's new chief executive, confirmed yesterday that BMW's and Rover's agony of indecision over whether the Mini could, or even should, be replaced is over. An all-new design will enter the world's car showrooms somewhere around the year 2001.

The 1.4-litre four-cylinder power unit for the new model will be made in a factory to be built in South America under a $500m joint venture, announced at the Paris motor show yesterday, between BMW and Chrysler, the third-largest vehicle maker in the US.

However the car remains an essentially British project, with design work being undertaken at Rover's new engineering centre at Gaydon in the English Midlands. The car will almost almost certainly be made at nearby Longbridge, the "home" of the existing Mini near Birmingham.

News of the project came as Dr Bernd Pischetsrieder, BMW's chairman, delivered another vote of confidence in the UK industry. He said at the Paris motor show that a new £400m-£450m plant to produce another type of engine to supply both BMW and Rover will be located in the UK, provided the British government can roughly match the investment aid expected from Austria, the rival contender.

BMW had hoped to announce the engine plant's location yesterday at the same time as revealing it had agreed with Chrysler to set up the joint venture in South America. Around half the 400,000 engines to be made annually by the South American venture will be used in the new Mini.

While production of the new Mini will mainly help secure existing jobs for the 16,000-strong work force at Longbridge, Dr Hasselkus said the project would create "several thousand" jobs among UK-based components suppliers.

"I hope today's news will end speculation that the Mini could be built anywhere other than in the UK. This is yet more evidence of BMW's confidence in Rover," he added.

Its introduction will also be the subject of enormous interest in Japan, where the current Mini has become a cult, with several magazines devoted specifically to it. Indeed, Japan is the world's single largest market for the current car, accounting for 8,000 of the 20,000 produced last year, compared with 6,000 sales in the UK.

Nissan to invest $110m on boosting Primera output in England

Nissan, the Japanese carmaker, yesterday said it would invest a further £70m ($110m) in its plant near Sunderland in north-east England to build an estate version of its Primera family model, *Haig Simonian writes.*

The new vehicle, which will replace a model imported from Japan, should create 150 jobs at Sunderland and boost car output by 20,000 units a year when production starts in 1998, said Mr Yoshikazu Hanawa, Nissan's president.

Mr Hanawa, who took over the top job this year, said he believed output at Sunderland should be further boosted by a third vehicle range alongside the current Primera and Micra models. In an interview at the Paris motor show, he said: "It's my personal opinion that a third model should be manufactured in the UK".

The idea of a third model, expected to be a compact family saloon in the Ford Escort class, has been studied for some time.

However, Mr Hanawa warned that Nissan had not yet reached a decision and an announcement would not be made till 1997.

Premier urged to aid probe into MP's actions

PA News Reporters in London

Mr John Major, the prime minister, last night faced growing demands to co-operate fully with a parliamentary investigation into cash-for-questions accusations against Mr Neil Hamilton, a former trade minister in his government.

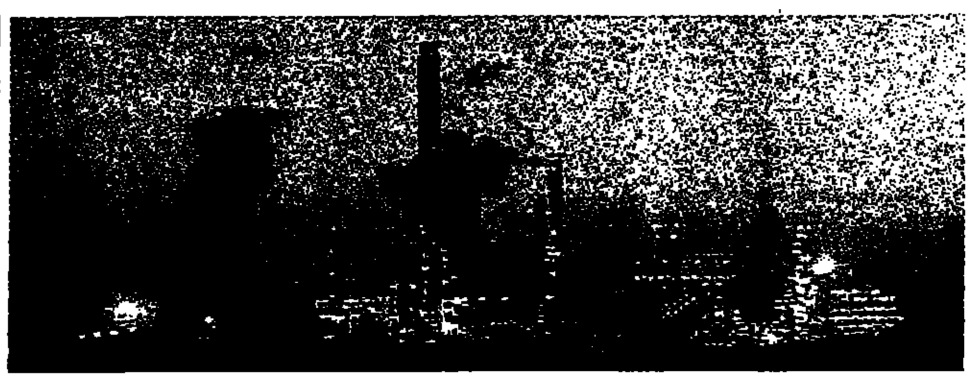
Mr Hamilton, who withdrew from a libel suit against the Guardian newspaper on Monday, said he was now taking the case to Sir Gordon Downey, the Parliamentary Commissioner for Standards, to clear his name.

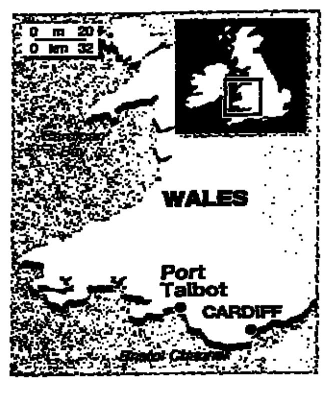
Mr Hamilton, accused by the newspaper of receiving money to ask parliamentary questions, had promised to expose journalistic "corruption and fantasy" in the courts. But on Monday, the day before the case was due in the High Court, Mr Hamilton dropped the action. He and his fellow litigant – Mr Ian Greer, a political lobbyist – agreed to pay jointly £15,000 ($23,400) of the Guardian's costs.

Mr Hamilton and Mr Greer maintained their "total innocence" and said they dropped the libel case because the legal costs were escalating.

Mr Alan Rusbridger, editor of the Guardian, dismissed yesterday's move by Mr Hamilton as the "final act of bluff".

Lord Nolan, chairman of the Committee on Standards in Public Life, backed the idea of an inquiry by Sir Gordon into what he called "serious" allegations against Mr Hamilton: "The continuing accusations and counter accusations in this case are damaging to the reputation of Parliament and the truth of the matter needs to be properly investigated."





Port Talbot, a steel town which symbolises the decline in south Wales of traditional heavy industry, yesterday launched a £230m ($360m) regeneration strategy, Roland Adburgham writes in Cardiff. The aim is to attract a wave of "green" inward investment which, it is hoped, will eventually create more than 3,000 jobs. The main feature of the 10-year strategy will be a 270-ha "energy park" next to the BP Chemicals' plant (above) at Baglan Bay. The promoters of the "park" speak of Port Talbot becoming the "green industrial town of Europe".

Cardinal urges IRA ceasefire

By John Murray Brown in Dublin

Politicians and church leaders on both sides of Northern Ireland's sectarian divide yesterday stepped up pressure on the Irish Republican Army to reinstate its ceasefire.

Their efforts came amid mounting concern of a resumption of Protestant violence after a group of anti-nationalist "loyalist" prisoners indicated it would no longer support the current peace talks.

Cardinal Cahal Daly, the Roman Catholic Primate of all Ireland, yesterday seized on the loyalists' warning to urge the IRA to reinstate its ceasefire. "No single thing would do more at this time to restore hope and lessen division in our society," he said.

Mr Seamus Mallon, deputy leader of the constitutional nationalist Social Democratic and Labour Party (SDLP), said in Belfast that the disaffection of the loyalists was a "serious situation, a potential threat to the peace process. I believe the IRA have it in their power to ensure that the apprehension in the community recedes and that the peace process can be built on."

The prisoners were vital in securing a loyalist ceasefire in October 1994, a few weeks after the historic IRA move which set the peace process in train.

The Ulster Democratic party, the political wing of the Ulster Defence Association, the largest of the outlawed Protestant groups, said it was trying to persuade the paramilitaries to keep to their ceasefire.

UK NEWS DIGEST

Rail bids from Spain and US

Six companies, including a Spanish rail freight operator, a US financing group and a UK electricity generator have been shortlisted in the bidding for Railfreight Distribution. RfD is the last of the freight businesses in Britain's state rail network to be sold to the private sector.

RfD, which is heavily loss-making, runs international freight services through the Channel tunnel between the UK and destinations in Spain, France, Germany and Italy. Currently a division of British Rail, it is due to be established as a separate company within the next two weeks and the sale is planned for completion early next year.

The companies on the shortlist are: Transfesa, a Spanish-based international rail freight group; GE Capital, a US finance and leasing group; National Power, an electricity generator which recently established a domestic rail freight business; English Welsh and Scottish Railway, BR's heavy freight division which was acquired by Wisconsin Central Transportation of the US; Freightliner, BR's domestic container business which has been bought by its management; and Tibbett & Britten, a distribution company.
Charles Batchelor

■ 'MAD COW' SLAUGHTER

Backlog may total 400,000

The backlog of cows awaiting slaughter under the government's programme to curb BSE, or mad cow disease, appears to be as high as 400,000, in line with the bleakest industry predictions.

The British government last week refused to reveal the figures disclosed by its own survey of the country's farmers, saying it did not find them credible. But officials said yesterday they were taking steps to speed up the slaughter in case the backlog proves as high as the preliminary findings suggest, at around 400,000.

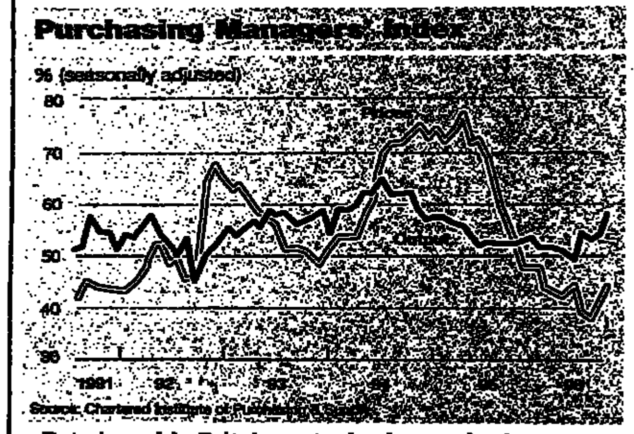
Farmers' leaders and meat industry representatives have warned for some months that the backlog was far larger than the government's estimate of up to 180,000. The scheme was designed by the government to restore confidence in beef by removing cattle over 30 months old from the food chain. More than half a million have been destroyed since May.
Alison Maitland

■ ECONOMY

Chancellor upbeat on inflation

Mr Kenneth Clarke, chancellor of the exchequer, insisted yesterday that the British economy was on course to grow by 3¼ per cent next year without jeopardising his inflation target of 2½ per cent.

"I believe we can go on delivering above trend growth over several years, as we close the output gap, without inflation re-emerging," he said, in a speech to the annual meetings of the International Monetary Fund and the World Bank in Washington yesterday.



Data issued in Britain yesterday by purchasing managers gave little hint that inflationary pressures were imminent. They reported the sharpest monthly increase in output in September for two years.

The increase will be welcomed by manufacturers, who have seen patchy trading conditions in recent months. But it is also likely to further limit Mr Clarke's scope for cutting interest rates.

Traders in sterling futures contracts, which are used to bet on the future level of interest rates, now expect base rates to be raised to almost 7 per cent by the end of next year from their current level of 5.75 per cent, to curb inflationary pressures.
Gillian Tett

■ ROYAL MAIL

'Alternative' service on trial

Securicor Omega Express, the leading UK express parcels operator, began a trial of its first business postal delivery service yesterday. It said its aim was "to launch an alternative postal service in the event of the Royal Mail monopoly being permanently lifted". The government has threatened to remove the monopoly held by the Royal Mail offshoot of the Post Office as mail workers continue their series of strikes.

The trial will run in the cities of Birmingham and Manchester for a week. Securicor Omega Express is the UK's largest overnight parcels carrier. It delivers over 2m parcels a week.
Robert Taylor

■ ARGENTINE CONTRACT

$155m joint venture for port

A joint venture between Rolls-Royce's materials handling business, Clarke Chapman, and Portia Management, the consulting division of Mersey Docks and Harbour Company, has won a £100m ($155m) contract to operate, maintain and develop a port facility for Siderar SAIC, the leading Argentinian steelmaker. The facility at San Nicolas, on the River Parana 150 km north of Buenos Aires, comprises a bulk import terminal and steel products export terminal.

Labour party conference: Delegates encouraged by support from EU leaders

Leader calls for 'age of achievement'

By John Kampfner, in Blackpool

Mr Tony Blair, leader of the opposition Labour party, yesterday called for an "age of achievement" with Britain as "the skill superpower of the world". He was speaking at his party's last policy-making conference before the general election which must be held by May next year at the latest.

Opinion polls consistently indicate that Labour, out of power since its defeat by the Thatcher-led Conservatives in 1979, will be victorious.

The mood among delegates at yesterday's gathering was euphoric. They had been buoyed earlier in the day when Mr Blair received enthusiastic endorsement from the heads of three European Union governments.

In what aides to Mr John Major, the prime minister, acknowledged was a diplomatic snub, Mr Wim Kok, Dutch prime minister; Mr Franz Vranitsky, Austrian chancellor; and Mr Antonio Guterres, Portuguese prime minister; suggested Europe was waiting for a Labour victory.

Speaking in a video recording, Mr Guterres said: "We need a European Union that cares. For that we need a British Labour government with you, Tony, as its prime minister." Each leader recited the mantra: "New Labour, New Life for Britain."

A spokesman for Mr John Major said: "The British government has always taken the view that it would never do or say anything that would interfere with another country's electoral process. Other governments and leaders of political parties must answer for themselves."

Mr Blair's bravura performance had several audiences in mind. He wanted to persuade the British electorate that Labour was both radical and safe. The most striking aspect of the speech was Mr Blair's commitment to a five-year "covenant with the British people".

● Mr Robin Cook, the Labour party's shadow foreign secretary, reinforced his party's commitment to sign the European Union's Social Chapter on workers' rights, giving a firm undertaking that a Labour government would do so, James Blitz writes.

He said it was essential for a Labour government to join by January 1 1998 because it would also be the moment at which the UK took up the presidency of the European Union.

To resounding applause, he said: "We will do it because Britain cannot be a leading player in Europe when it is lagging behind everyone else in Europe." He argued that, without signing up to the social chapter, British employees would continue trying to find work in other EU countries where they enjoy "more rights than if they had stayed in Britain". Mr Cook bitingly described the Conservative party's attitude to Europe as "crude jingoism".

Editorial Comment, Page 13

Military helicopter training goes private

By Ross Tieman in London

A private-sector consortium has been chosen to set up and run a common training school for helicopter pilots in the Army, Royal Air Force and Royal Navy.

The contract, worth more than £400m ($625m) over 15 years, will be four times the size of the largest contract previously awarded by the Ministry of Defence under the British government's Private Finance Initiative, which aims to attract private funds for public projects.

The preferred bidder, announced yesterday by the ministry, is FBS Limited, a partnership comprising FR Aviation (part of Cobham), SERCo and Bristow Helicopter Group. FBS will be responsible for supplying and maintaining 47 helicopters, and operating and staffing a school which will train 230 crew members a year.

Rival bids from Short Brothers, the Belfast subsidiary of Canadian aerospace group Bombardier, and from a consortium comprising Hunting Aviation and Bond Helicopters, were rejected.

The contract with FBS is expected to be signed within weeks. Mr Nicholas Soames, the armed forces minister, said creation of the school would improve pilot training and help win taxpayers better value for money.

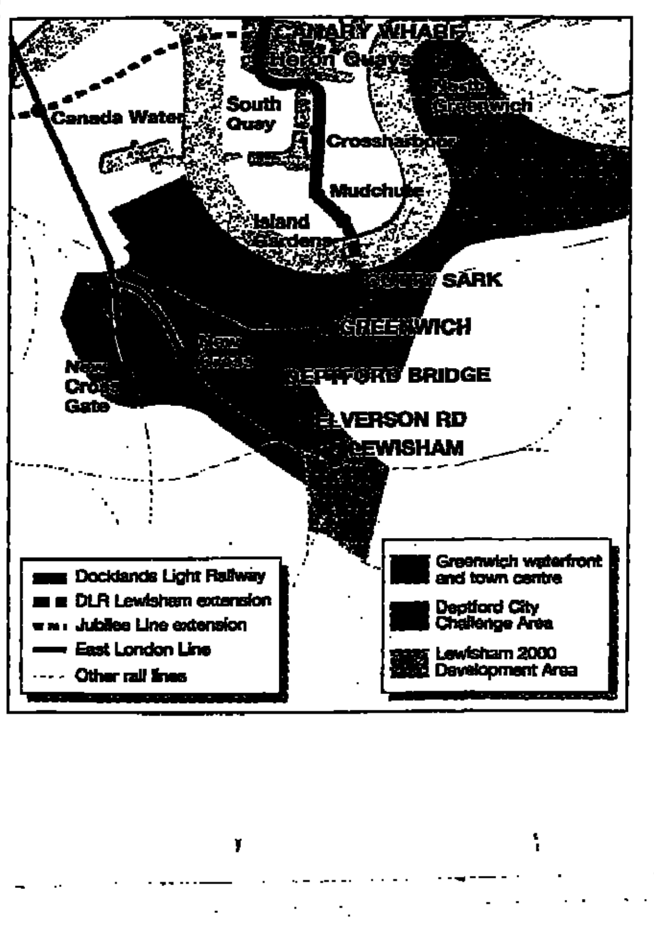
Over the life of the contract, transferring training to the private sector is expected to save £77m. Of that, more than £50m will be achieved by replacing old aircraft with new machines that are cheaper to operate and maintain.

The services have used 79 Gazelle and Wessex helicopters, all over 20 years old, for basic training. To undertake the same function, FBS will buy 38 Squirrel single-engined aircraft from Eurocopter – a joint venture between Aérospatiale of France and Daimler Benz Aerospace of Germany – and nine twin-engined Bell 412EP aircraft from Bell Helicopter of Canada. Three of the Bell aircraft will be based at an RAF base in Wales to provide advanced search-and-rescue training. Graduates of the school will return to the services for operational training.

A review of basic helicopter training was launched because of the need to replace existing training aircraft, and the approaching entry into service of more modern operational helicopters such as the Westland EH101 and the McDonnell Douglas Apache attack helicopter.

According to defence officials, contracting out the operation proved cheaper than three alternative options studied, under which the services would have retained responsibility for the training.

The school will remain under the nominal charge of a military officer. In addition to training pilots for the UK armed forces, it will train about 10 pilots from other countries each year.



Risk is shared on London light railway

Taxpayers will be shielded from the cost of avoiding another Docklands fiasco

By late 1999 the driverless trains of the Docklands Light Railway (DLR) will start running under the river Thames to Greenwich and Lewisham in south-east London. If the service fails to start on time, or any other mishap befalls the £220m ($343m) project, the costs will be met by the construction consortium, not the taxpayer.

The British government's environment department, which is ultimately responsible for regenerating the Docklands district in east London, was determined to avoid the fiasco which engulfed the original light railway network north of the river. The DLR was once a byword for unreliability and the government was forced to intervene, wresting control from London Transport, which also runs the capital's buses and Underground railway.

Government officials believe that by financing the Lewisham extension as part of the government's private finance initiative – which insists on risk being transferred to the private sector where possible – an open-ended financial commitment has been avoided.

The result has been to impose tight performance standards on the City Greenwich Lewisham Rail Link consortium which was last week awarded a 25-year concession to build and maintain the 5km extension to Lewisham town centre. The consortium, consisting of the John Mowlem construction group; Hyder Investments, part of the Welsh utility; London Electricity; and Mitsui UK will not operate the trains but will recoup the construction and maintenance costs by renting the line to the DLR and also by levying a fee which depends on passenger numbers.

If the CGL Rail consortium does not keep the stations on the line clean, well-lit and safe, or if technical failures delay the trains, then passengers are unlikely to use the line and its earnings will be hit.

The result of transferring these risks from the taxpayer to the consortium has been a sharp increase in the cost of the project. Initially estimated at between £110m and £130m, it has finally emerged at more than £220m.

But if the project is not derailed by unexpected problems – tunnelling is notoriously uncertain – it could prove a money-spinner for the winning consortium. Forecasts indicate that the Lewisham extension will account for more than half of total DLR revenues.

This optimistic financial scenario has enabled the consortium's merchant bankers, BZW, to arrange an 'A' rated £165m bond issue without the need for "credit enhancement," a form of additional third party guarantee which has been required on previous bond issues under the government's private finance initiative.

The financial package also consists of a £50m government grant, a £5.8m contribution from Lewisham council and £4.4m from Greenwich to help fund the expensive underground station at Cutty Sark. The package which has been agreed, while expensive, should deliver a railway which can exploit the full commuter and tourist potential of the line. It will also be the first test of the application of tight financial disciplines to the rail construction sector.

Charles Batchelor

هكذا من الأصل

BUSINESS AND THE ENVIRONMENT

Tom Mead on a potential replacement for satellites and **Sarah Althaus** (below) on the first truly sun-propelled glider

Solar power takes flight

Solar spotlight

Soaring silently in the brilliant light and brutal cold 12 miles up, flights of black, solar-powered, unmanned, ultra-light aircraft may, in four or five years, assume some functions of conventional satellites.

Flying wingtip-to-wingtip in geese-like V formations, they will wheel through five-mile wide circles above major cities and serve as platforms for wireless communications. Each aircraft may stay aloft for months at a time, but the black V-formation may fly indefinitely.

The key to the idea is the formation. "The aerodynamics of formation flying have been known for years," says Professor Jason Speyer of the School of Engineering and Applied Science at the University of California, Los Angeles (UCLA). "When geese fly in formation, when they are gliding, each bird takes advantage of the upwash coming off the bird in front to reduce its own workload."

Formation flight can produce a 50 per cent reduction in the energy required for continuous flight. By emulating nature and taking advantage of the energy-conserving upwash effect used by the geese, the solar-powered engine in each ultralight aircraft in the formation would need to produce only about 1¼ horsepower to maintain a continuous flight speed of about 100ft a second (68 mph) at between 63,000 and 68,000ft. By contrast, a typical aircraft flies at about 35,000ft and 600 miles an hour.

"In formation flight, the geese perform much like a single larger wing," says Speyer. "We hope to accomplish the same thing with the unmanned air vehicle, except that the aircraft would do it autonomously and stay aloft for weeks, months, or longer."

Operating without ordinary fuel, human guidance, or the need to land, the formations will function as platforms for the microwave repeaters used in cellular phone, pager and wireless computer communications. They may also carry highly accurate sensors for environmental or atmospheric studies.

High-altitude communications systems offer several advantages over space-based systems. They present dramatically lower initial costs; they represent less potential damage to the atmosphere by using a lorry instead of a booster rocket for launch; and they require less powerful, less expensive transmitters. Also, compared to a satellite, it would be easier and cheaper to repair them or update the payload.

A prototype unmanned air vehicle has been designed and built by a Rockwell unit, now being purchased by Boeing and UCLA engineers in partnership with Nasa, the US space agency. Advanced technologies in ultra-light materials, solar cells, and battery chemistries have been used to build it. The prototype weighs between 125lb and 150lb, but final designs call for an 85lb vehicle with solar cells covering 90 per cent of the wing surface.

The aircraft are a combination of elegance and ungainliness, clearly reflecting the principle that form follows function. A long, tubular fuselage – with the diameter of a coffee can – is attached to and suspended below the 43ft tip-to-tip wingspan. This is constructed of tubular spars and graphite-epoxy ribs covered with a grey-white mylar, an extremely tough synthetic fabric.

A payload compartment capable of carrying about 20lb of equipment is mounted on the fuselage below the centre of the wingspan. A "push" propeller is mounted aft of the inverted V tail, powered by black photovoltaic panels. These allow the craft to fly in formation under the direct power of sunlight while simultaneously recharging the batteries for night flight.

The first flight of the prototype is due to take place later this month in the Mojave desert of southern California. Later, five more craft will be built. The six aircraft will then be used to achieve three goals: autonomous formation flight, high-altitude formation flying, and then solar-powered formation flying – raising the possibility of eternal flight. The creation of a flying system which uses several smaller aircraft to function as one larger aircraft produces three main advantages. First, a large aerodynamic aspect ratio (a large wing) makes the many-acting-as-one configuration an efficient flier. Second, the smaller structural aspect ratio (smaller wingspans) of the smaller craft makes them easier to build. Third, built-in fail-safe systems will allow a damaged craft to be replaced without grounding the entire V array or terminating its functions.

There still remains the problem of control, and making five independent aircraft perform as one cohesive, collaborative unit.

Even in the extraordinarily thin and turbulence-free atmosphere at 65,000ft, formation flight is inherently unstable without an active control system. Several systems will be used in order to overcome the instability.

Information from air-data sensors, an inertial measurement unit, infrared ranging sensors, and signals picked up from the satellite-based Global Positioning System will control the relative position of each aircraft in the formation to within 1in of optimum spacing.

The aileron and flap control surfaces which control ordinary aircraft will be replaced by an actuator, which will twist the end third of each wing to maintain aerodynamic control. "That," adds Speyer, "is the same technique the Wright brothers used at Kitty Hawk."

Under the wing of the prototype unmanned air vehicle, at UCLA

Aircraft rises with the sun

An aircraft called partly after a fated figure in Greek mythology and flown by a pilot nicknamed Micro might seem an unlikely combination to achieve what has been hailed as "a milestone in aviation history".

But this summer Werner Scholz made history when he touched down at a small German airbase to land Icaré, the first motor glider powered by solar energy alone. In 1993, 40 international teams had registered for Germany's respected Berblinger aviation competition to build such an aircraft. But on the big day almost three years later, only five presented their models, and only Icaré made it into the air.

The world's most advanced solar aircraft had remained true to the "re" in its name, taken from the Egyptian sun god, rather than Icarus, the mythological figure who plunged to his death after flying too close to the sun.

Icaré's flight points the way to the use of solar-powered aircraft as remote-controlled platforms monitoring the weather and environmental trends. Indeed, experts believe that in the next decade, solar aircraft will be able to fly for weeks on end at altitudes of up to 20km, a cheaper and pollution-free alternative to satellites.

"For sure, there have been other solar aircraft," says Rudolf Voit-Nitschmann, head of the 40-strong Icaré team from Stuttgart University's department of aviation construction. "But these were lightweight, highly risky innovations which required lots of luck and which weren't powered by solar energy alone."

Aircraft such as Paul McCready's Solar Challenger, which crossed the Channel in 1981; Eric Raymond's Sunseeker, which flew across the US in 1990; and Guenther Rochelt's German model, Solair 1, relied mostly on thermals (rising warm air currents) and not solar energy to maintain altitude, says Voit-Nitschmann.

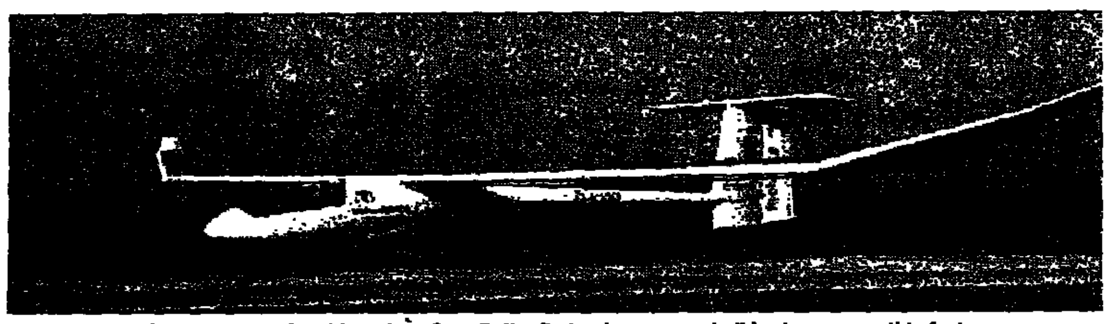
They did not have to fulfil the strict airworthiness requirements stipulated by the Berblinger committee. "We are the first reliable solar-powered motor glider," he claims.

One criterion was that the aircraft should be able to take off on its own and reach an altitude of 450m at an average vertical speed of 2m a second. Previous solar aircraft were either towed aloft by fossil-fuelled aircraft or climbed unassisted at a more gradual speed of between 25cm and 1m a second.

A solar-powered generator and 384 standard nickel cadmium batteries boost Icaré's engine for take-off. The engine, designed by the University of Braunschweig in northern Germany, is an achievement in itself. It can deliver 12kw of power but weighs only 15kg, about a fifth of the weight of a normal engine with that output.

Once Icaré has reached about 450m, the batteries are empty and it is all down to the 3,000 super-efficient photovoltaic cells which cover the plane's tail surfaces and 25m wingspan.

The cells, measuring 10 sq cm each, are conventional single-layer silicon cells, with a total depth of about 350 microns (0.35mm) and efficiency rate of 17 per cent. That means that 17 per cent of the light energy falling on their surface can be transformed into electricity. The electricity powers Icaré's engine which in turn drives a single propeller.



Icaré takes to the skies unassisted by other aircraft, the first solar-powered glider to manage this feat

Recent technology has meant there are cells on the market with as much as 24 per cent efficiency. But they tend to be far smaller and much more expensive. "Those kind of cells would have required about four times as much wiring, and even a percentage point more efficiency would have doubled our costs," says Voit-Nitschmann. As it was, the cells cost about DM150,000 (£65,200) in total.

The next problem was how to fix the highly fragile cells to Icaré's wings and ensure they could withstand strong vibrations. "We found the answer in a technique used by solar-assisted rally cars in Australia – we used a flexible polyester lamination," says Voit-Nitschmann.

A further criterion was that Icaré should be able to fly on as little as 500W of solar energy per square metre. That would enable it to fly in winter as well as on sunny summer days when up to 1,000W per square metre can be generated.

Icaré's sturdy structure and crash capabilities also set it apart from previous solar aircraft. In Voit-Nitschmann's words, the additional weight factor meant that hitherto "a solar flight was bordering on the impossible". Icaré weighs a total of 265kg, with the pilot Scholz adding another 90kg. This is pretty hefty when compared with the 48kg pilot in the 92kg Solar Challenger. The German aircraft's overall weight includes a 10kg rescue parachute.

Daimler-Benz, the German industrial group, and the regional state government footed most of the DM1.4m bill for the Icaré project.

However, Voit-Nitschmann says the final figure would have been closer to DM500m if Icaré had been built by an aviation construction company rather than with the help of students and the university's engineering facilities.

This concludes the series on solar energy.

TENDER NOTICE

UK GOVERNMENT ECU TREASURY BILLS

For tender on 8 October 1996

1. The Bank of England announces the issue by Her Majesty's Treasury of ECU 1,000 million nominal of UK Government ECU Treasury Bills, for tender on a bid-yield basis on Tuesday, 8 October 1996. An additional ECU 50 million nominal of Bills will be allotted directly to the Bank of England for the account of the Exchange Equalisation Account.

2. The ECU 1,000 million of Bills to be issued by tender will be dated 10 October 1996 and will be in the following maturities:

ECU 200 million for maturity on 14 November 1996.
ECU 500 million for maturity on 16 January 1997.
ECU 300 million for maturity on 10 April 1997.

3. All tenders must be made on the printed application forms available on request from the Bank of England. Completed application forms must be lodged, by hand, at the Bank of England, Customer Settlement Services, Threadneedle Street, London not later than 10.30 a.m., London time, on Tuesday, 8 October 1996. Payment for Bills allotted will be due on Thursday, 10 October 1996.

4. Each tender at each yield for each maturity must be made on a separate application form for a minimum of ECU 500,000 nominal. Tenders above this minimum must be in multiples of ECU 100,000 nominal.

5. Tenders must be made on a yield basis (calculated on the basis of the actual number of days to maturity and a year of 360 days) rounded to two decimal places. Each application form must state the maturity date of the Bills for which application is made, the yield bid and the amount tendered for.

6. Notification will be despatched on the day of the tender to applicants whose tenders have been accepted in whole or in part. For applicants who have requested credit of Bills in global form to their account with ESO, Euroclear or CEDEL, Bills will be credited in the relevant systems against payment. For applicants who have requested definitive Bills, Bills will be available for collection at Customer Settlement Services, Bank of England after 1.30 p.m. on Thursday, 10 October 1996 provided cleared funds have been credited to the Bank of England's ECU Treasury Bills Account No. 59005518 with Lloyds Bank Plc, Bank Relations, St George's House, PO Box 787, 6-8 Eastcheap, London EC3M 1LL. Definitive Bills will be available in amounts of ECU 10,000, ECU 50,000, ECU 100,000, ECU 500,000, ECU 1,000,000, ECU 5,000,000 and ECU 10,000,000 nominal.

7. Her Majesty's Treasury reserves the right to reject any or part of any tender.

8. The arrangements for the tender are set out in more detail in the Information Memorandum on the UK Government ECU Treasury Bill programme issued by the Bank of England on behalf of Her Majesty's Treasury on 28 March 1989, and in supplements to the Information Memorandum. All tenders will be subject to the provisions of the Information Memorandum (as supplemented) and to the provisions of this notice.

9. The ECU 50 million of Bills to be allotted directly to the Bank of England for the account of the Exchange Equalisation Account will be for maturity on 10 April 1997. These Bills may be made available through sale and repurchase transactions to the market makers listed in the Information Memorandum (as supplemented) in order to facilitate settlement.

10. Copies of the Information Memorandum (and supplements to it) may be obtained at the Bank of England. UK Government ECU Treasury Bills are issued under the Treasury Bills Act 1877, the National Loans Act 1968 and the Treasury Bills Regulations 1968 as amended.

Bank of England
1 October 1996

هكذا من الأصل

ARTS

Television in South Africa/Roger Matthews

Democracy – in many tongues

Focus, the South African current affairs programme, went to Libya on Monday night. Like many other journalists before, the white, female reporter found it tough going. Despite having been promised unrivalled access to Colonel Muammar Gaddafi, like many before her, she was shepherded around in a group, and did not talk to anyone other than minor officials disguised as ordinary citizens. She ended up, like many before her, interviewing some of the other 200 journalists on the trip.

They provided a little balance to the report, the tone of which had been set at the outset with a clip of President Nelson Mandela promising that his government would never desert its friends. (There is a standing invitation for Gaddafi to visit South Africa.) So, the viewers were told, the man described by the US as a "mad dog" was a also "charismatic leader with a vision of the future based on his pure revolution". Not only this, but the majority of Libyans had benefitted enormously from Gaddafi's economic policies for uplifting the poor and suppressing the rich, a theme that goes down well in the new South Africa.

Back in the studio, the Libyan ambassador explained the problems of simultaneously looking after so many journalists, before moving on swiftly to the crisis in Palestine. The solution was at hand, he declared. How? By following the successful South African model, of course. There should be free, democratic elections throughout the land of Palestine, including, of course, that bit which is called the Zionist entity by some, but Israel by the majority. To those without much knowledge of the Middle East it probably sounded eminently sensible.

It was almost as plausible as Jane Seymour overcoming anti-Semitism in the Wild West, the theme of the programme which immediately preceded Focus. *Dr Quinn, Medicine Woman*, played by Seymour, is the American West's female answer to Mandela. She is imbued with the desire to heal physical and moral ailments. So when a Jewish trader comes to town, having escaped persecution in Europe, it is left to Seymour to save him from a similar fate at the hands of her fellow citizens. "It will take time, but they will come round. They are good people at heart". It could have been Mandela speaking. But even the world's most-loved politician would have baulked at the ending. After a moment of violence, the entire town underwent a Damascene conversion, and the local newspaper publisher gave the Jewish trader a free subscription.

But such optimistic nonsense is perhaps a necessary antidote to the hard reality of holding up a mirror to the nation, the declared policy of the revamped South African Broadcasting Corporation. Having in the bad old days only broadcast nationally in Afrikaans and English, the SABC and its three channels are now trying to accommodate all 11 official languages. Some are only managing 10 minutes a day, and elsewhere questions are often posed in one language, and answered in another, with no assistance offered by way of sub-titles. Television coverage of parliament shows ministers providing single word answers to unknown questions. But at least Zulu or Xhosa speakers now know where and at what time, to find news bulletins they can understand, although only up to a point. If they were interested in the details of South Africa's cricket victory over Pakistan they are still expected to understand English.

Sport is supposed to be South Africa's greatest force for racial reconciliation since Mandela wore a No 6 rugby shirt to encourage the national team to victory over New Zealand in the world cup final last year. Perversely, not a single non-white rugby player has since appeared for South Africa, and several cabinet members, especially Trevor Manuel, the minister of finance, once again cheer for the opposing team. But television's overall commitment to sporting coverage is undiminished. The problem for SABC, like other public broadcasters, is finding the funds to compete with pay channels, in this case M-Net. But at least it can count on the support of ministers who are determined that big national events, especially soccer which better reflects the country's racial balance, will remain available on public broadcasting.

If that is one reflection of a national preoccupation, news and discussion programmes present a series of others. South African television can both surprise with the good humour that painful issues are sometimes discussed, and repel with the intimate coverage of the worst violence. A gangster, shot and then set alight by vigilantes in a Cape Town suburb, is shown in close-up staggering along the street till he dies. A man in a wheelchair is filmed in his Johannesburg house looking down at the body of a burglar he shot dead. The hearings of the Truth and Reconciliation Commission, which are supposed to bind the wounds of the past by opening them to the public gaze, fill screens nightly with tales of the most appalling violence and suffering.

Democracy has freed the hands of broadcasters in other ways. Films such as Quentin Tarantino's *Reservoir Dogs* or Oliver Stone's *Natural Born Killers*, which in Britain have had problems getting released or being given a video licence, have been shown uncut on M-Net, along with a weekly offering of soft porn. But in other areas nothing has changed, the most resistant of all being the weather forecast.

Night after night, what appears to be the same satellite images of swirling clouds advance and retreat across the nation without explanation. Meanwhile a disembodied voice, reminiscent of a BBC announcer in the 1950s, intones that maritime airs will increase off the western Cape and there will be a 20 per cent chance of precipitation on the northern coast of KwaZulu-Natal. It must be of some reassurance to those who fear too much is changing too quickly.

For others on Monday night who wanted more solid evidence of black and white harmony, it was necessary to switch across to live coverage of English soccer, and Newcastle United against Aston Villa. The most famous British carriers of those colours triumphed 4-3, and black men scored most of the goals. Which is just how the majority of South Africans like it.

Theatre

Kemp's camp mime to music

Lindsay Kemp is a law unto himself. It could be argued that he is a throwback to an age of more florid, more classical mime performance light years removed from today's physical theatre; one might, in contrast, cite the grandiloquent campery of his work as evidence that he would have been an outsider in any period.

He has, however, been largely devoid of appreciation in his native land, outside of a sprinkling of devotees. Kemp's first UK-based show in two decades, then, was always going to be an event of sorts; and the peeling, *de trop* décor of the Hackney Empire provides the perfect surroundings for *Variété*, a work which pays equal homage to Charlie Chaplin's film *The Circus* and Georg Büchner's *Woyzeck* whilst never letting either reference point cramp Kemp's individual style.

The story is a straightforward one: simpleton Franz Vogel (Kemp) joins a small travelling carnival show, falls in love with the deaf mute trapeze artist Maria, loses her and murders her. This is to give nothing away, as the opening number of the musical shows Vogel on his way to the gallows, leaving the tale proper to unfold in flashback thereafter. But, as usual with Kemp, narrative is hardly the most important element.

In what is a first for him, *Variété* is a more or less through-composed musical. Since the events are set in 1930s Germany, Carlos Miranda's score carries strong Expressionistic overtones, further enhanced by the shifting colour washes of Chahine Yavroyan's remarkable lighting designs.

This is not the most digestible kind of music; nor, with erratic acoustics, does it make for great intelligibility – Ernesto Tomasini, as the Showman's "wife" La Belle Yvette, has a remarkable voice, but not even he can get a high proportion of the words across. Those lyrics which can be heard are often defiantly simplistic, chiming repeatedly upon the same basic rhyme.

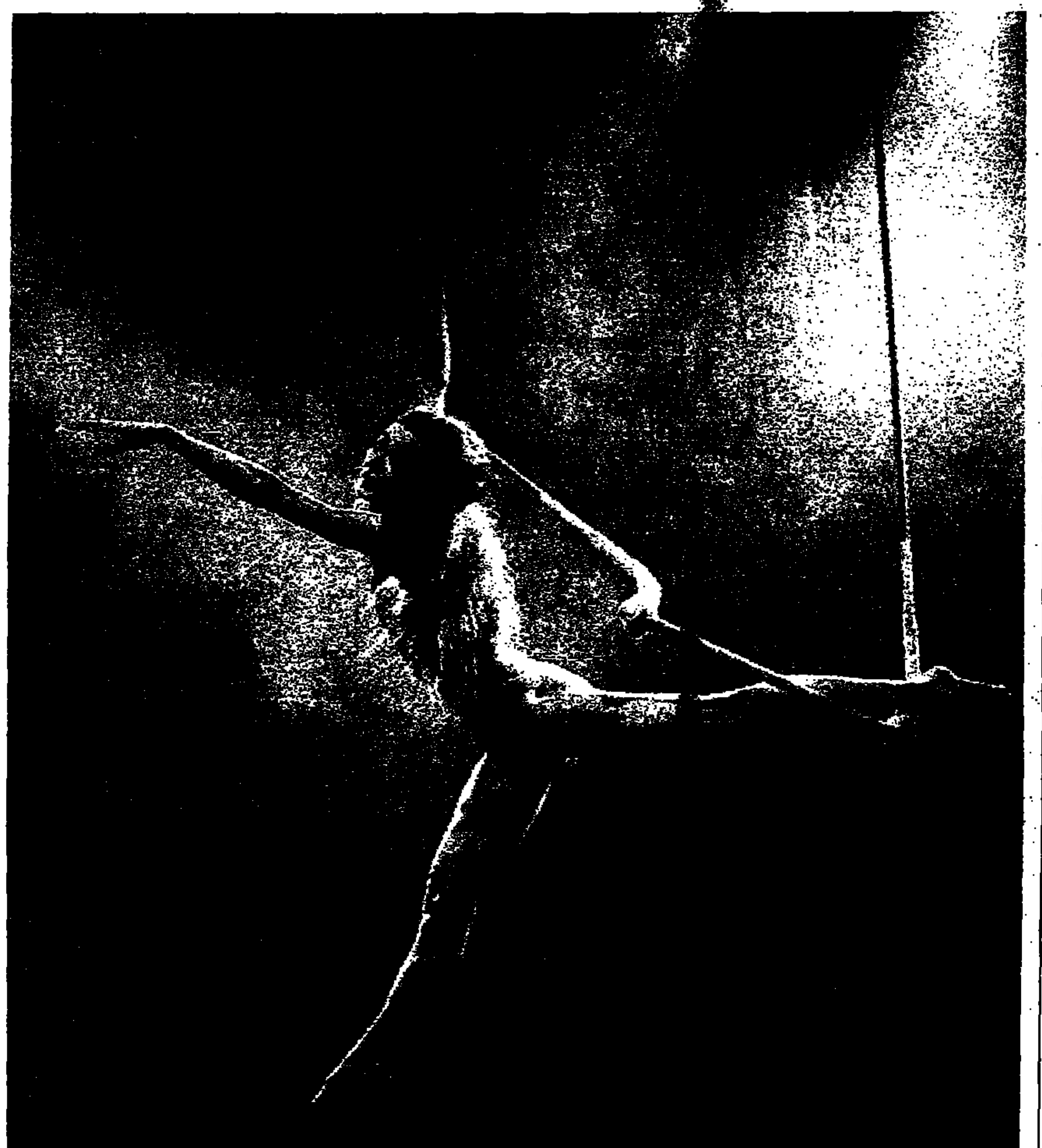
At root, also, Kemp's performance style is just not my cup of tea. Rather than showing bravery in its rejection of moderation and contemporaneity, it hints to me at an almost sclerotic dogmatism. Even during the joyous sequence in which Vogel – in flying harness and big-bird costume – sets foot for the first time on the high wire, the audience's laughter seemed tinged with indulgence. Kemp's determination to be seen as the only begetter of the production is visible when he appears to be grandly orchestrating the curtain call of female lead Nuria Moreno.

Put simply, Lindsay Kemp is an acquired taste. His dedication in pursuing his own vision over 35 years and several countries of residence deserves enormous respect and admiration, but it will not appeal to all.

Put even more simply: lovers of flamboyant mime-rooted spectacle will love this flamboyant mime-rooted spectacle.

Ian Shuttleworth

At the Hackney Empire, London E8, until October 8 (0181-985-2424), then touring until December 7: Poole, York, Barnstaple, Oxford, Blackpool, Brighton.



Nuria Moreno as Maria in 'Variété': for lovers of flamboyant mime-rooted spectacle Alastair Muir

First the good news – then the bad

Antony Thorncroft talks to Lord Gowrie

Lord Gowrie, chairman of the Arts Council of England and its wealthy offspring, the Arts Lottery Board, is about to make some talented young people very happy. He has come up with a scheme which will enable up to 30 leading drama and dance schools to offer scholarships to young actors and dancers whose hopes of training are currently dashed by the refusal of their local councils and the department of education to pay their fees. Gowrie expects this to be a three year holding operation, giving the government time to come up with a final solution. The cost, up to £25m, will be met by the lottery.

Not surprisingly, Gowrie is a fan of the lottery. "It has the power to shock, to shake the system by the tail. The ecology of government funding of the arts has been knocked for six."

The facts speak for themselves. The Arts Council of England will receive £250m from the lottery this year as against its annual grant of £186m. Wonderful, but the cause of great concern to Gowrie. As a former government minister of the arts he is adept at looking at the downside, and the downside is that the Treasury is jealous. It expected the lottery to provide nearer £50m for the arts and so it wants to cut the council's annual grant. Today, Lord Gowrie and his secretary general Mary Allen will make the case for a higher annual grant for 1996-97 while launching the council's 1995-96 annual report.

Gowrie is in the difficult position of a multi millionaire asking for a loan. He is arguing with heritage secretary Virginia Bottomley about the size of next year's grant, and is gloomy. A £3m cut seems inevitable. Against all its promises the government is using the lottery to reduce its commitment to the arts.

Gowrie anticipates a difficult few years for arts companies. "It is a question of getting from here to there". He concedes that in eight years' time the arts in England will be flourishing. "Take Manchester – it will have a new opera house at Salford, a rebuilt Royal Exchange, and the new Hallé hall. The infrastructure in the big cities will be in place." But in the meantime companies struggle with rising deficits which forces them to avoid adventurous programmes and to freeze pay.

The deal was that the lottery should be devoted to repairing dilapidated arts buildings – "I could have spent all the lottery money on that alone" – while the government held the annual grant steady. With the government reneging on the deal Gowrie has been adept at widening the scope of lottery spending on the arts.

As well as giving grants to rebuild Covent Garden, Sadler's Wells, the Royal Court, and many more cultural institutions, the council has borrowed from the US the idea of a stabilisation scheme, which will pump money into arts companies needing a one-off cash injection to secure their future. Later more far reaching schemes will be unveiled to increase access to the arts by the young, the old, the untried – both as audiences and performers – and to commission works of art, music, plays, etc. Already around £25m of lottery money has been committed to British film making.

Gowrie does not want the lottery to provide revenue funding for the arts. That would give the Treasury the excuse to run down the annual grant. He wants the annual grant maintained as core funding, and lottery money employed for "evangelical work", building up the audience for the arts.

In the 18 months since the lottery started handing out money Gowrie is pleased with the way that a totally new funding structure is working, although he thinks that there has been unnecessary bureaucracy and delay in the awarding of grants. Delay by the Arts Council in handing over lottery money is as much a contributor to the crisis as frozen levels of subsidy in 1996-97. Over £450m has been allocated from the lottery to almost 800 arts organisations but less than £55m has actually been handed over.

But distribution is being speeded up, and by election time, most Conservative candidates will be able to point to arts lottery projects in their constituencies. Gowrie is sanguine about a change of government. He believes that the leaders of both parties acknowledge the role that the arts play in employment and tourism.

Gowrie does not believe the arts will get extra lottery money when the Millennium Fund is disbanded at the end of 2000: nor is he confident that the arts will still be getting lottery money in ten years' time. But he is determined to fight the arts' corner for the next decade.

Booker short-list announced

The short-list for this year's Booker Prize for Fiction was announced yesterday. The six authors competing for the £20,000 prize are Margaret Atwood for *Alias Grace* (published by Bloomsbury); Beryl Bainbridge for *Every Man for Himself* (Duckworth); Shena Mackay for *The Orchard on Fire* (Heinemann); Seamus Deane for *Reading in the Dark* (Cape); Rohinton Mistry for *A Fine Balance* (Faber); and Graham Swift for *Last Orders* (Picador). The winner will be announced at the Guildhall, London, on October 29.

INTERNATIONAL ARTS GUIDE

BERLIN

CONCERT
Konzerthaus Tel: 49-30-203090
● Berliner Sinfonie-Orchester: with conductor Michael Schoenwandt and violinist Benjamin Schmid perform works by Mozart and Bruckner; 8pm; Oct 3

DANCE
Deutsche Oper Berlin Tel: 49-30-3438401
● Nederlands Dans Theater: perform Kylian's *Bella Figura* to music by Foss, Pergolesi, Marcello, Vivaldi and Torelli, Van Manen's Kammerballett to music by Karayev, Scarlatti and Cage, and Kylian's Psalmensymphonie to music by Stravinsky; 7.30pm; Oct 3, 4

■ BORDEAUX

OPERA
Grand Théâtre de Bordeaux Tel: 33-56 48 58 54
● Armide: by Gluck. Conducted by Marc Minkowski, performed by Les Musiciens du Louvre. Soloists include Mireille Delunsch, Ewa Podles and Françoise Masset; 8pm; Oct 4

■ BRNO

CONCERT
Brno International Music Festival Tel: *425 4323 3116*
● Royal Liverpool Philharmonic Orchestra: with conductor Libor Pesek perform works by Suk, Janácek and Dvorak. Performance at the Janáckovo Divadlo, as part of the 31st Brno International Music Festival; 8pm; Oct 3

■ BRUSSELS

EXHIBITION
Musée Communal d'Ixelles Tel: 32-2-5119084
● De vertellingen in prent van Rodolphe Töpffer: de geboorte van het stripverhaal: exhibition devoted to the work of the illustrator and author Rodolphe *Töpffer whose seven "Histoires en estampes"*, the first of which was drawn in 1827, are generally considered to be the forerunners of the (comic) strip; to Nov 3

■ CHANTILLY

EXHIBITION
Musée Condé Tel: 33-44-570800
● Jean-Antoine Watteau: exhibition devoted to the French artist Jean-Antoine Watteau (1684-1721) and his followers. *The show features four paintings* and over thirty drawings by Watteau. Other exhibits include works by such artists as Nicolas Lancret and Jean-Baptiste Pater, representatives of the "fête galante" painting, a genre also practised by Watteau; from Oct 3 to Jan 6

■ COLOGNE

CONCERT
Kölner Philharmonie Tel: *49-221-2040820*
● Gürzenich-Orchester: with conductor James Conlon, pianist Lars Vogt and the Kölner Philharmoniker perform Beethoven's Egmont Overture, Op.84 and Piano Concerto No.1 in C major, Op.15; 11am; Oct 3

DANCE
Opernhaus Tel: 49-221-2218240
● Tanz-Forum Köln: perform Jochen Ulrich's Care and Get Up Early to music by Kühn and Quintus; 7.30pm; Oct 3

■ DRESDEN

OPERA
Sächsische Staatsoper Dresden Tel: 49-351-49110
● Tristan und Isolde: by Wagner. *Conducted by Christof Prick and* performed by the Sächsische Staatsoper Dresden. Soloists include Wolfgang Schmidt, Siegfried Vogel and Luana DeVol; 4pm; Oct 3, 6

■ DUSSELDORF

CONCERT
Tonhalle Düsseldorf Tel: *49-211-8992081*
● Württembergisches Kammerorchester Heilbronn: with conductor Jörg Faerber, violinist Frank Peter Zimmermann and viola player Tabea Zimmermann perform works by Haydn, Hindemith and Mozart; 8pm; Oct 4

■ FRANKFURT AM MAIN

CONCERT
Alte Oper Tel: 49-69-1340400
● Brodsky Quartet: perform works by Stravinsky, Schubert and Shostakovich; 8pm; Oct 3

EXHIBITION
Schirn Kunsthalle Tel: *49-69-2998820*
● Ferdinand Hodler - Freundschaft und Kunstsinn: retrospective exhibition featuring works by the Swiss painter Ferdinand Hodler (1853-1918), a precursor of Expressionism and member of the Sezession of Vienna. *The display includes his* early figurative work, his portraits and landscapes; from Oct 3 to Jan 5

OPERA
Städtische Bühnen Oper, Ballet, Schauspiel Tel: 49-69-21237444
● Samson et Dalila: by Saint-Saëns. Conducted by Sylvain Cambreling and performed by the Oper Frankfurt. Soloists include Margit Neubauer, Hubert Delamboye and John *Bröcheler; 7.30pm; Oct 3*

■ GOTHENBURG

CONCERT
Göteborgs Konserthus Tel: 46-31-7787800
● Symphony No.8: by Bruckner. Performed by the Göteborgs Symfoniker with conductor Claus Peter Flor; 7.30pm; Oct 3, 4 (6pm)

■ MUNICH

OPERA
Nationaltheater Tel: 49-89-21851920
● Love for Three Oranges: by Prokofiev. Conducted by Michael Halász and performed by the Bayerische Staatsoper. Soloists include Marita Knobel, Sabine *Hass and Kenneth Garrison*; 7.30pm; Oct 3

■ NEW YORK

CONCERT
Avery Fisher Hall Tel: 1-212-875-5030
● *New York Philharmonic: with* conductor Kurt Masur and violinist Glenn Dicterow perform works by *Hanson, Barber and Dvorák*; 8pm; Oct 3, 4, 5
Carnegie Hall Tel: 1-212-247-7800
● Berlin Philharmonic Orchestra: with conductor Claudio Abbado and pianist Maurizio Pollini perform Brahms' Piano Concerto No.2 in B flat major, Op.83 and Symphony No.2 in D major, Op.73; 7pm; Oct 3

EXHIBITION
Whitney Museum of American Art *Tel: 1-212-570-3600*
● Nan Goldin: I'll be your Mirror: a retrospective of photographer Nan Goldin (b. 1953), whose raw and intimate work has become a signature of the sexual and cultural urban underground of the past two decades. On view are portraits, self-portraits, landscapes and interiors taken over 25 years in cities including New York, *Boston, Berlin, Tokyo*, Bangkok, and Manila; from Oct 3 to Jan 5

■ PARIS

ART & ANTIQUE FAIR
Espace Eiffel Branly Tel: 33-1 44 18 41 41
● FIAC - Foire International d'Art Contemporain: international fair for contemporary art; *Oct 2-7*

CONCERT
Cité de la Musique Tel: 33-1 44 84 45 00
● La Petite Bande: with conductor Sigiswald Kuijken, soprano Sandrine Piau, alto *Marijke van Arnhem, tenor* Jean-Paul Fouchécourt, bass Harry Van der Kamp and the *Choeur de Chambre de Namur* perform Haydn's Symphony in D minor; 8pm; Oct 4

OPERA
Théâtre des Champs-Elysées Tel: 33-1 49 52 50 50
● Le Nozze de Figaro: by Mozart. Conducted by Jean-Claude Malgoire and performed by La Grande Ecurie et *La Chambre de Roy. Soloists* include Danielle Borst, Sophie Fournier, Hubert Claessens and Patrick Donnelly; 7.30pm; Oct 5

WORLD SERVICE

BBC for Europe can be received in western Europe on medium wave 648 kHZ (463m)

EUROPEAN CABLE AND SATELLITE BUSINESS TV

(Central European Time)

MONDAY TO FRIDAY

NBC/Super Channel:

07.00
FT Business Morning

10.00
European Money Wheel
Nonstop live coverage until 15.00 of European business and the financial markets

17.30
Financial Times Business Tonight

CNBC:

08.30
Squawk Box

10.00
European Money Wheel

18.00
Financial Times Business Tonight

هكذا من الأحول

Ian Davidson

Chord of disunity

Just as a pianist must practise hard to become a virtuoso, EU members need to do the same to bring about reforms

A famous piano virtuoso once said there was no such thing as a difficult piece of music. Some pieces, he said, were easy; and some pieces were impossible. It was practice which made pieces migrate from the second category into the first.

It seems that much the same is true of economic and monetary union (Emu) in Europe. Six months ago it was fashionable to question whether the project could take off at all: too few countries appeared able to meet the stiff budgetary and economic criteria for membership. Even the essential participation of Germany and France was in doubt.

All of a sudden it is equally fashionable to assume that the final phase of Emu will happen, most likely on schedule at the beginning of 1999 and possibly with more than half the European Union's member states taking part.

The European Commission's pronouncements on the single currency are increasingly upbeat, not to say cocky. Spain and Italy are redoubling their efforts to cut their budget deficits in the hope of joining the monetary union in the first wave. The markets expect it to happen. Even the International Monetary Fund is adding its voice to the chorus of confidence, urging members not to be so tough on their deficits that they risk excessive deflation.

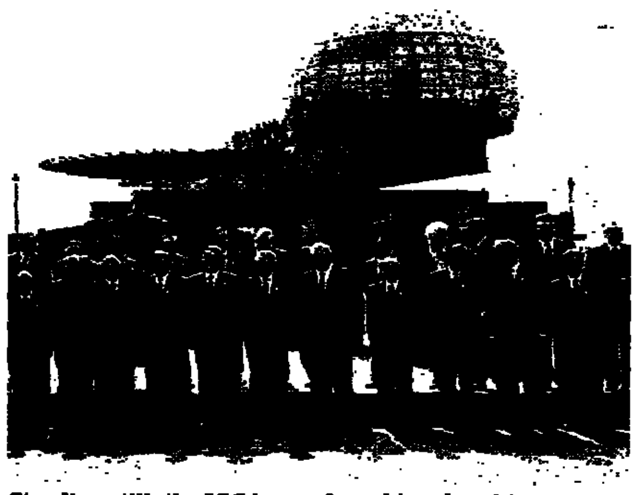
In short, Emu seems to have migrated from the category of things that are impossible to the category of things that are easy.

This is a pity for two reasons. First, Emu is still in that uncomfortable category familiar to all non-virtuoso pianists: that of things which are very difficult. It will not be made easier by admitting countries which do not really qualify.

The second problem, equally serious, lies in the stark contrast between the euphoria over monetary union and the bleak prospects for the intergovernmental conference (IGC) on reforming and strengthening the EU. Most member states want the conference to make treaty changes to strengthen the political integration of the EU. It must also introduce more majority voting if the EU is to be able to welcome new members from eastern and central Europe. Without this, its decision-making could be paralysed by the difficulty of reaching agreement among the membership.

So far, however, nothing has been achieved since the IGC began in March because the UK government opposes any changes of significance. This is not to say that the other 14 member states share unanimity on all aspects of the conference agenda: they don't. But because the British oppose any change, negotiations have not even started.

This weekend the 15 heads of government are holding a summit in Dublin with the idea of getting the conference moving at last. France wants to give it a push so there is likely to be a Franco-German initiative (once again) to move the discussions forward.



Standing still: the IGC has so far achieved nothing

The reality, however, is that the conference agenda will not move an inch so long as John Major's Conservative government is in power. As for the new rhetoric on Europe of Tony Blair, the Labour leader, even the most positive interpretation would still leave a future Labour government with a long way to go before it could sign up to a deal that would satisfy the other member states.

This raises three grave difficulties. First, continuing deadlock in the IGC on any significant constitutional reform will put at risk the EU's enlargement into eastern and central Europe. At the very least, enlargement negotiations would have to be held up until there was a solution to the British problem.

Second, the Germans feel they made too many concessions at Maastricht on Emu and received too little on political integration. The IGC was supposed to be the opportunity to restore the balance – so if it fails we can expect to see some sort of a crisis between Germany and its partners.

The third difficulty is that deadlock in the IGC will have the effect of concentrating all the political drive for further integration into the only channel which is not, and cannot be, blocked by the UK: Emu.

There are several reasons why Italy and Spain have suddenly decided to strive for budgetary rigour in an attempt to qualify for the single currency. But one reason is that monetary union is now the only part of the European project which has any chance of moving forward.

Emu will therefore be the starting point for further integration among EU member states, not just for monetary union but also for political purposes. Any member state which fails to join the single currency will thus find itself outside the political hard core.

It is not clear that Emu, as structured by the Maastricht treaty, has enough political strength and legitimacy to bear so much weight. Its strength and legitimacy will be undermined if it includes countries with economic and political systems which cannot be counted on.

Emu is being strengthened – as an afterthought – by the negotiations on German proposals for an economic stability pact to enforce fiscal discipline after monetary union. If Emu becomes the centre of a political hard core, it will need to be buttressed by broader political and democratic institutions.

The converse, however, is just as significant: because Emu allows for opt-outs for Britain and Denmark, it prepares the way for a two- or three-tier Europe. If the IGC runs out of steam, progress towards monetary union will reinforce the factors driving towards a break-up of the unitary EU.

In terms of the piano-playing analogy, such a break-up will not be easy. But if it is necessary, it will not be impossible. It just takes practice.

LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

We are keen to encourage letters from readers around the world. Letters may be faxed to +44 171-873 5938 (please set fax to "fine"). e.mail: letters.editor@ft.com Published letters are also available on the FT web site, http://www.FT.com Translation may be available for letters written in the main international languages.

Euro will work only if it replaces currencies

From Mr Tim Congdon.

Sir, Samuel Brittan (Economic Viewpoint, September 26) claims "the euro will surely come". If his style of advocacy is the best that supporters of a single European currency can do, the message is – on the contrary – that the euro will never come.

Money serves two key functions, as a unit of account in pricing and a medium of exchange in transactions. Of course, these are related because transactions are denominated in prices, but they remain distinct. First, a unit of account is often needed as a reference point when no transaction takes place. Second, a medium of exchange must have value to be acceptable in transactions – a unit of account is valueless in itself.

The central fallacy in the Maastricht process is the belief that announcement of a new unit of account (the euro) is equivalent to the introduction of a new currency. This is not so. A new currency has come into being only when it is also a medium of exchange. To be a medium of exchange it must also have value. In the modern world of paper fiat money, value is conferred on a currency by the legal tender laws. Mr Brittan is wrong in his statement that "legal tender is largely an archaic concept". If he does not believe me, I suggest that he offers his newsagent a 10 shilling note and four old shillings when he next buys the Financial Times.

The difficulty with the Maastricht process is that the euro is supposed to become Europe's money on January 1 1999, but nowhere in Europe will it be legal tender at that date. Its constituents remain separate currencies and their value can fluctuate relative to each other. Fluctuations in their value then affect the value of the euro. There is simply no guarantee the exchange rates will be irrevocably fixed from January 1 1999, as the melancholy history of the exchange rate mechanism demonstrates. The euro's status as a medium of exchange in waiting is therefore uncertain and people will be reluctant to use it. By January 1 2002 (when it is meant to become legal tender) it will almost certainly have been discredited by changes in the value of its constituents.

The only way to introduce a single currency is to end the old currency's legal tender status overnight so the new legal tender currency immediately serves both unit of account and medium of exchange money functions. Until Europe's leaders understand this, the single European currency will remain a pipe-dream.

Tim Congdon,
managing director,
Lombard Street Research,
25 Dowgate Hill,
London EC4 2GN, UK

Strategy for a tax cut

From Mr Matthew Gallagher.

Sir, Here are a couple of sound-bites from the world's fixed income markets.

First, at current rates of progress, Spain (within the week) and Italy (within the month) will be regarded as better credits than the UK.

Second, if the UK were to sign up wholeheartedly for Europe tomorrow, the saving on our annual interest bill would amount to close to £1bn.

Now these facts may or may not be of interest to the Chancellor, Kenneth Clarke, at the moment. But if we assume that the UK remains in Europe for a number of years, the present value of an embrace of the European ideal by the current government would be some £5bn. Enough for a face-saving pre-election tax cut perhaps?

Matthew Gallagher,
MC Asset Management,
Commercial Union Tower,
One Undershaft,
London EC3A 8LH, UK

A dynamic UN will need strong chief

From Lord Judd of Portsea.

Sir, The dispute over the future of Mr Boutros Boutros-Ghali as secretary-general of the United Nations ("A useful scapegoat", September 25) should be seen in the wider context of a fundamental debate over the role of the UN in today's world.

The challenges of the late 20th century require international co-operation. Individual governments are often powerless to act effectively against such global problems as the proliferation of conflicts, terrorism, drug-trafficking, food and water shortages. The UN has a vital role to play at the forefront of initiatives to build alliances to maintain international peace and security.

A strong secretary-general is required to convince member states that isolationism is not the answer and that the UN is an organisation worth supporting. She/he must undoubtedly be a good administrator capable of tackling bureaucratic excess, but, most importantly, must be capable of articulating the challenges which the international community faces and eliciting the necessary financial and personnel support to help meet them.

The bottom line, however, is whether member states want the leaner, fitter more dynamic UN they profess to want. I shall never forget the senior diplomat who, when asked by me during my time as director of Oxfam what were the criteria on which the leaders of the international community were agreed for the selection of the secretary-general, replied: "You know perfectly well. The one criterion on which they are all in agreement is that on no account should we have a strong secretary-general." It is this cynicism that must be overcome.

Frank Judd,
senior fellow,
Saferworld,
3rd floor,
33/34 Alfred Place,
London WC1E 7DP, UK

Happy to confront realities of market?

From Dr Gordon Downie.

Sir, Gordon Getty tells us that he is opposed to state subsidy of the arts ("When money calls the tune", September 28/29). As the removal of such subsidy forces the arts to compete in the market place, Mr Getty is clearly in favour of arts organisations earning the right to survive. Given his opinions, I wonder whether it is Mr Getty's intention to reconsider his position regarding inherited wealth, which, like state subsidy, also frees the recipient from the constraints and stark realities of the market?

Gordon Downie,
21 Chamberlain Road,
Cardiff CF4 2LW

Ian Hamilton Fazey on businesses that keep it in the family

Gathering of a clan

Many family businesses feel undervalued, misunderstood and entangled in red tape. Yet owner-managed enterprises account for more than half of all jobs and, depending on which country they are in, contribute between a half and two-thirds of gross national product.

Many are extraordinarily successful, particularly in Germany, where about 500 family businesses dominate world market niches in advanced, high-quality products. Yet many remain unrecognised and their owners worry that governments do not care much about their survival.

They are uncertain about it themselves, however. About two-thirds of family business owner-managers spend a lot of time thinking about succession, but only half have made a will detailing their intentions for the business – and only a quarter have told anyone about it far enough in advance for effective planning.

One result is that fewer than three in 10 become true family businesses by surviving into the second generation. Research by Barbara Dunn, head of the Centre for Family Enterprise at Glasgow Caledonian University, suggests that only half of these will pass into the third generation.

Dunn's centre temporarily decamped to Edinburgh last week for the seventh world conference of the Family Business Network, an association and lobby group based in Lausanne, Switzerland, within the Institute for Management Development, the independent business school and think-tank.

With 300 delegates from around the world, but mainly from Europe, it was clear that family businesses are beginning to organise themselves as a group. Globalisation of the world economy and common problems appear to be breaking down tendencies to secrecy and privacy.

Assisting this trend are increasing numbers of academics who have spotted family businesses as a fruitful area for research on how-to-do-it management and public policy deficiencies. They are beginning to intervene with a rationale that governments may find difficult to ignore.

Family businesses are sometimes their own worst enemies, says Mr Alden Lank, professor in organisational behaviour at IMD and president of the Family Business Network. "They are secretive. They play their cards close to their chests, even if it is to their advantage to be more open."

Barbara Dunn: family participation in business is falling

So why treat them as something special? he asks. "Because they are better at creating jobs and in many countries they outperform quoted companies. As the shareholders in their own enterprise, their managers take a long-term view, which is usually better for jobs than short-term concern for immediate profits and taxation. They offer stability."

Annelie Karlsson, of the Stockholm School of Economics, offers another view, having spent a year researching the Bonnier family-owned publishing dynasty in Sweden, which was founded in 1804 and now has 60 family owners. "What makes them unique is the emotional dynamic within the business," she says. "By the time you get past the second generation, there is a spiritual inheritance to pass on and the business becomes a family heirloom. It would be unthinkable to sell."

She says that when a company gets past the third generation, shareholders function as a clan, with the demands of individuals secondary to the needs and traditions of the business.

"Professional managers may be able to watch over other people's money. They can never watch over other people's traditions. In a family business, it may not be as important as in a publicly owned business to maximise profits. It may be more about *how* business is done," Ms Karlsson adds.

Prof Lank sees three main areas of concern about family businesses: visibility and recognition; succession and taxation; and corporate governance. The second may be simplest to deal with because it is relatively easy for governments to change fiscal policy.

The UK, which now has business-friendly inheritance taxes, is seen as a model by family businesses in France, where it is almost impossible to pass on a business intact from one generation to another. In Spain, there is a growing lobby for UK-style legislation that would enable assets to be placed in trust so a business could carry on uninterrupted by penal taxation when the next generation took over.

Visibility and recognition are more difficult, Ms Dunn says. "However, just as the family is struggling to remain intact as a social unit, so are family businesses struggling for survival. Family businesses are so important and their needs are so unique that perhaps they should be treated as a sector in their own right."

Prof Lank agrees: "There could be a quid pro quo for special treatment as a sector – the ending of secrecy. In return for helping family businesses as a sector, governments could demand more professionalism and be much more active in the field of corporate governance." Greater openness to outside scrutiny would also reduce regulatory pressure and should, theoretically, cut red tape.

Ms Dunn's research has shown just how private family businesses are at the top. The average board of directors numbered three, all related to each other. Only 3 per cent had a non-family, non-executive director. Only 28 per cent recruited non-family graduates and although a similar minority sent managers for training, courses were on nuts-and-bolts subjects such as information technology, quality management and financial control. No one was sent away to learn about developing human resources.

Prof Lank believes more work needs to be done, and says it is in the interest of governments to fund it.

The other crucial issue is access to capital markets, partly because of costs and compliance requirements. But more important is the reluctance of many family shareholders to surrender equity to outsiders in exchange for resources to develop their businesses.

This can inhibit growth, but the London Stock Exchange, a co-sponsor of last week's conference with the government-backed Scottish Enterprise, hopes families will realise that the new Alternative Investment Market enables finance to be raised more cheaply and easily – and without families losing overall control.

With academics in pursuit of research funds and heavyweight professional advisers in search of fees, family businesses are increasingly a market in their own right. Indeed, such allies and suppliers may do more for the visibility and recognition problem than family businesses could ever do for themselves.

FINANCIAL TIMES

Number One Southwark Bridge, London SE1 9HL
Tel: +44 171-873 3000 Telex: 922186 Fax: +44 171-407 5700

Wednesday October 2 1996

Labour with a difference

Mr Tony Blair yesterday gave the speech of a man preparing for victory, but it was to a party not yet prepared for government. His conference speech represented another ambitious stride towards redefining Labour's broad ideological aims. It also filled in some detail on the measures by which a Blair government would seek to effect its goals.

Still missing is much of a clear idea of how his party would govern – the detailed structure of policies and the choices to be made between them. In that deficiency lies a danger that could dog Labour both before the general election due by May, and thereafter if it wins.

This is not to belittle Mr Blair's achievements to date. In the two years since he last addressed a Blackpool conference, he has junked many of the party's traditions, launched a powerful assault on the political centre ground, and created a commanding – perhaps unassailable – lead in the polls.

What he had not done until this week was to set out a compelling vision which could both rally the party battalions in the conference hall and reach out to a broader audience beyond. Doubts persisted outside the party as to the depth of the conversion and the breadth of support Mr Blair could rely on. Supporters worried that he was not offering a sufficiently appetising recipe for a change of government.

Clear purpose

Yesterday's speech should allay doubts that Mr Blair is different. Some of his language was glib; some of its rhetoric swerved into bathos. But the central purpose was clear: to redefine Labour as a vehicle for aspiration and opportunity – a party for people whose "instincts are to get on in life".

That in itself would have been inconceivable two years ago; just as remarkable yesterday was the fact that the audience applauded. Old Labour may not understand its new leader, but he has managed to set the party's new blood racing. His prospectus should also serve as a basis for the broader centre left consensus that Mr Blair sees as indispensable to securing power for more than one term.

The Labour leader combines hints of radicalism with a powerful vow of fiscal and economic orthodoxy. Both he and Mr Gordon Brown, the shadow chancellor, are scornful of the idea that problems can be solved by throwing a few billion extra pounds at them. Instead, they promise to reshape the entire government budget in the service of a more "decent" society.

More detail

This is where the remaining doubts creep in. For between the overarching vision and the many points of detail set out this week, there is a gap. It is visible in the lack of sharp definition of policy in important areas such as health. It is glaringly apparent in the absence of a strategy to match the leadership's warm words on Europe. It is clear from the fact that, although Mr Blair promises to spend a greater proportion of national income on education, he is reticent on which areas he will deprive of funds to achieve this.

In part this gap may reflect understandable caution about offering hostages to Tory campaigning ahead of an election that may still be eight months away. The worry is that the lack of clarity is not just on the surface: that the leadership has not begun to work out precisely how it would proceed in its crucial first year in office.

That would be a disaster not just for Labour's electoral prospects but also for Britain. Parties without a coherent strategy for government find themselves at the mercy of events. And there would be no shortage of such challenges for a new Labour government in mid-1997, from pressing decisions about European monetary union to the need to deliver on ambitious commitments such as constitutional reform. Mr Blair and his colleagues should beware lest their confidence turn into hubris that blinds them to the need to plan for government.

Taking stock of old debts

Landmarks ought to be celebrated – even when it has taken far too long to reach them. The main shareholders of the World Bank and the International Monetary Fund this week offered the world's most indebted countries the possibility, just the possibility, of making a fresh start. If all goes according to plan, official creditors will spend between $5.6bn and $7.7bn over the next decade or so on reducing very poor countries' debt burden to a level they can hope to grow out of.

It will take continued pressure – by debtor countries and their supporters – to ensure that deserving nations actually get this second chance. None of the debts owed to the multilateral institutions will be formally written off, as many aid organisations and debtor nations have long urged. But, in theory, the medium-term effects of the programme will be similar to a straight write-off. It will be up to the countries themselves to ensure that that the new opportunity is put to good use.

That the chance exists at all is due in no small measure to Kenneth Clarke, the UK Chancellor. Along with some committed pressure groups, he has spent the past two years wearing down opposition to multilateral debt relief from other leading creditors. Yet it is not a complete victory. As things stand, many desperate countries could still find themselves waiting too long, for too little.

The most obvious failure relates to Mr Clarke's early proposal to sell part of the IMF's $40bn (£25.6bn) gold reserves to finance its contribution to the plan. Luckily, Germany and Switzerland's opposition to this suggestion was not allowed to scupper the whole plan at this week's Washington meetings. Yet, in the long term, the IMF is unlikely to be able to stick to its debt reduction promises without the sale of some gold.

Commitment lacking

The danger is that the lack of formally committed funds will inhibit the IMF from implementing the initiative as quickly and broadly as possible. Germany could avoid any blame for this by belatedly agreeing to modest gold sales when the subject is discussed again, at next year's spring interim meetings.

Selective approach

The Paris Club of government – or bilateral – creditors has also been more niggardly than it might have been. The new promise to reduce a qualifying country's bilateral debt stock by 80 per cent sounds generous. And certainly it is an improvement on the earlier "Naples terms" reductions of 67 per cent. But the promise applies only to selected chunks of the debt stock. The actual reduction received will vary by country, and will generally be considerably smaller than the headline figure implies.

Critics of those such as Mr Clarke who want to see a faster, more generous debt-relief scheme claim that it is forgetting the importance of conditionality. On this view, it is quite bad enough to be seen to be rewarding past failure through debt reduction. The very least creditors can do is insist on a lengthy, unbroken track record of improvement before stepping in to help.

This argument has considerable force. It is in no-one's interest – least of all the countries concerned – to waste hard-won money for debt reduction on corrupt, inefficient governments. If anything, the support provided under the new plan should have more strings attached than previous support. Creditors must do all they can to ensure the money goes toward reliable anti-poverty programmes and policies that support development – not, as occurred too often in the past, to lining the pockets of a few.

But the depth of the crisis facing many of these countries means there is very little time to waste. Ultimately, the new initiative will be judged by its ability to give early and generous recognition to governments that are honestly seeking a way out. The rest is up to them.

The FT Interview · Romano Prodi

Italy's road to Maastricht

The Italian prime minister tells Robert Graham of his determination that his country should be a founder member of the single currency

The adoption of an unexpectedly tough budget by Italy's centre-left government has been dubbed by the opposition as a sudden conversion on the road to Maastricht.

In little more than two weeks, Mr Romano Prodi, the prime minister, has radically altered his ideas on participation in European monetary union. He has concluded Italy has no option but to try to comply by next year with the strict criteria of economic convergence laid down in the Maastricht treaty for membership of the single European currency.

The change of heart was formalised in the 1997 budget, unveiled last Friday. It involves a reduction in the fiscal deficit almost twice as big as anticipated, designed to bring it down to the Maastricht target of 3 per cent of gross domestic product by the end of next year – the qualifying date for membership of the single currency.

"The budget is remarkably tough," says Mr Prodi, relishing the fact that the government has dared to reduce the fiscal deficit by more than the target set earlier in the year. "If we do all this, it will be impossible to leave Italy out of monetary union."

The prime minister, who took office in May at the head of Italy's first centre-left administration, backs up the point: "This is a country which has begun to make serious adjustments. The deficit as a proportion of GDP has come down since the early 1990s from over 10 per cent to 4.5 per cent currently. We are aiming for 3 per cent. In addition we are running an exceptional primary surplus [the balance of receipts and expenditures before interest payments] which is 5.5 per cent of GDP."

Mr Prodi used to feel it would not be a "tragedy" if Italy were a bit late in meeting the Maastricht criteria. But the government clearly became alarmed at the prospect of being left behind in the scramble to comply with the targets for monetary union.

The 57-year-old premier insists with the authority of a trained economist: "I always had in mind the possibility of a more ambitious budget to meet the Maastricht criteria; but I was ready to do this only when I felt the whole country was behind the idea."

He is sufficiently confident of popular backing for Italy to be a full European partner that a fifth of the fiscal adjustment in the 1997 budget is a special income tax called the "pro-Europa tax". He seems remarkably sanguine that this one-off European toll will not backfire and laughs when asked what happens if people want their money back should Italy fail to qualify.

But when did he realise Italy would not be able to bend the rules to slip into the monetary union? "The change occurred after the summer when I saw that other countries were making a serious effort to address their budget deficits ... I realised Italy too could not miss the appointment with Europe."

This change was first hinted at in letters sent in early September to Mr Jacques Chirac, the French president, and Mr Helmut Kohl, the German chancellor. But Mr Prodi acknowledges that a significant contributory factor was his meeting in Valencia last month with Mr Jose Maria Aznar, the Spanish premier.

In an interview with the FT on Monday, Mr Aznar said Mr Prodi attempted – unsuccessfully – to draw the Spanish into a "Mediterranean alliance" which would demand a more flexible interpretation of the Maastricht rules. The Italian premier rejects this account, but says: "Valencia was very important as I wanted to know what Aznar had in mind. The meeting was useful for our decision."

Whatever went on in Valencia, it is now certain that Italy and Spain intend to do the maximum to ensure they participate in the creation of the single currency. That would leave the UK as the only large EU country still undecided.

"I have always believed the City of London would not miss the opportunities created by monetary union," Mr Prodi observes. "When it comes to the time, the UK will think twice before missing the boat."

The Italian prime minister has had no previous experience of political office. But he has twice headed Iri, Italy's giant state holding company and is well aware of the problems of dealing with the two leading EU governments of France and Germany. He knows it will be hard to convince them of Italy's credibility and establish the right exchange rate for the lira to re-enter the European Exchange Rate Mechanism.

The French have been the most outspoken in attacking the competitive threat posed by Italy's devalued lira. But the country's powerful industrial lobby will be equally anxious to ensure that the exchange rate at which the lira re-enters the ERM does not erode Italy's competitiveness.

Mr Prodi argues that the credibility of public finances is not just an Italian issue. He is scathing about some of the ways France has adopted to reduce its budget deficit to meet the Maastricht targets. "If others carry out window-dressing we can do the same," he says. "If no-one does then we won't."

Some L13,000bn of the 1997 Italian budget, a fifth of the total package, is due to come from what are blandly termed "treasury operations". "If the French get away with it, then we can show them a trick or two as well," he says with a chuckle.

Mr Prodi is sensitive to criticism that his budget relies too much on fresh taxes at the expense of cuts in spending – tax rises account for almost half the reduction in the fiscal deficit.

"Spending on health and the public administration as a whole is not high by European standards," he says. "And we have moved to curb abuses in pensions." Almost a quarter of the L25,000bn in spending cuts will come from trimming welfare benefits and ending pension anomalies.

A comprehensive reassessment of Italy's costly pensions system is impossible, he says, because of an agreement to introduce pension reform made with the unions in July 1995 by the government led by Mr Lamberto Dini. "The previous government gave an undertaking that any further structural changes in pensions could not be done until January 1998," he says. "We have to respect that."

Such caution reflects Mr Prodi's background close to the left of the old Christian Democrat party and his desire not to provoke a destabilising confrontation over cuts in the welfare state. "There is a need for consensus on social issues," he says. He wants to avoid the kind of conflict that has erupted in France where efforts to curb welfare spending have sparked strikes and unrest.

His opponents claim such caution is proof he is hostage to the hardline communists of Reconstructed Communism (RC) led by Mr Fausto Bertinotti. Mr Prodi's Olive Tree alliance relies on Mr Bertinotti's support for its parliamentary majority. "They can only blackmail to a limited extent," the prime minister says. "Bertinotti knows where to stop and he doesn't want to bring down the government."

These comments suggest the budget – with its emphasis upon making wealthy Italians shoulder the main burden of sacrifice – has led to closer ties between Mr Prodi and Mr Bertinotti. The understanding with Mr Bertinotti provides the government with greater stability in the short term.

But in the long term, it allows the opposition to accuse the government of having abandoned the centre ground for the left and of having betrayed one of its most important electoral pledges, not to raise taxes. It could also complicate Mr Prodi's complex relationship with Mr Massimo D'Alema, the leader of the Party of the Democratic Left (PDS), the reformed communists who are dominant in the Olive Tree alliance.

Mr Prodi has no party base of his own and was chosen as prime minister only because the left feared the country was still not ready to accept a former communist such as Mr D'Alema – even though he expresses social democrat views. "The situation is anomalous," Mr Prodi admits. He also concedes he and Mr D'Alema do not always see eye to eye.

But undoubtedly Mr Prodi feels he has strengthened his position as a result of the budget and he talks like someone set for a full five-year term. "There is no alternative to the present government," he says. "The opposition is weak and divided."

He then adds with the curious mix of modesty and pride that colours much of his conversation: "Slowly, and with some slips, Italy is acquiring a government able to govern – and that is new."

· OBSERVER ·

Integrate thyself

■ Kazuo Inamori is breaking the mould again. The founder and chairman of Kyocera, the Kyoto-based producer of around 70 per cent of the world's integrated circuit ceramic packages, hopes to retreat from worldly affairs after his 65th birthday in January. He plans to shave his head and become a Zen buddhist monk.

Most Japanese executives tired of the commercial hurly-burly opt for enlightenment on the golf course.

But Inamori has long harboured religious feelings, more so since relinquishing full time management four years ago. Always ready to defy the conventional, his career kicked off in iconoclastic style: he and seven colleagues broke away from a Kyoto ceramics company 37 years ago, to found what is now Kyocera.

'Since then he's pursued business with a philosophical fervour, believing there is more to corporate success than mere profit. He finds the pursuit of money for its own sake futile: "Money has legs and if you try to catch it, it will run away."

So Inamori yesterday told a startled press conference that he plans to study asceticism at Empuku-ji, an 18th century temple in the leafy hills just outside Kyoto, the religious and cultural heart of Japan. He was told by a monk there that now is a good time to begin.

If the Kyocera chairman follows the normal regime for novices, he will rise in the small hours for zazen, or meditation, then sweep the rooms or clean the garden. Empuku-ji will expect him to spend much of the rest of the day standing in the street, under a straw hat, holding out a begging bowl for alms. Perhaps not such a radical change from attending shareholders' meetings after all.

Rifkind sees red

■ Malcolm Rifkind, Britain's foreign minister, loves tweaking the tails of his EU counterparts. He was at it again in Luxembourg yesterday, pouring scorn on member states for blocking a trade accord with Jordan over – wait for it – imports of tomato concentrate.

Now, tomato concentrate is a big export earner for Jordan, which originally called for Brussels to lift current tariffs on 15,000 tonnes of the stuff. But after objections from the Club Med countries and, surprisingly, the supposedly free-trade Germans, the Jordanians cut their demand to 5,000 tonnes. Yesterday, the Commission came up with a compromise of just 3,000 tonnes – even though, as Rifkind pointed out, the EU itself produces 800,000 tonnes annually.

By Rifkind's own maths, the EU was arguing yesterday about one-eighth of one per cent of EU production. Hardly the stuff of which grand foreign policy is made, especially when the Europeans are clamouring for a bigger diplomatic role in the Middle East.

But Rifkind's fractious behaviour irritated colleagues. Several saw it as a ploy to pick up Euro-sceptic headlines in the UK's yellow press. They could have a point. As one Irishman said – if he cares so much about tomato paste, why did he waltz off, leaving his deputy David Davis to argue the nitty-gritty with other ministers?

No tax Bill

■ At the tender age of 40, Bill Landuyt, the chairman and chief executive of Hanson subsidiary Millennium Chemicals, is on course to become a millionaire – many times over. The demerger of the chemicals business opens the way for him to receive free shares worth $10m, as part of the company's long-term incentive programme.

But to qualify, Landuyt, a former Hanson main-board director, will have to show considerable commitment to the business. Avoiding punitive tax penalties has been a key part of the planning behind Hanson's four-way split. Under a deal with the UK's Inland Revenue, Millennium has to remain headquartered in Britain for the next five years or pay an additional tax bill of some £500m. Every significant management decision and all the company's board meetings must be taken at the UK headquarters, even though most of its activities are in the US.

Landuyt may thus see even less of his New Jersey home than when employed in managing Hanson's US affairs. He says he has already decided where he will live: "On an aeroplane".

Hirsute history

■ Better late than never. Santiago Carillo, the former secretary general of Spain's once banned communist party, yesterday got back a light-brown wig, fake facial hair and a lab technician's coat, the rather ineffective disguise he was wearing when arrested in December 1976.

The objects were returned to Carillo during an official ceremony; doing the handover was the man who arrested him, Rodolfo Martin Villa, former interior minister. There was no disguising Carillo's pleasure.

The Financial Times

100 years ago

Strike in France

Just now they are very much concerned in France about the strike that is being carried on by the weavers of Lyons. These good weavers are more or less permeated with the vice of Socialism, and in pursuance of their principles they demand wages which the masters protest will ruin the industry. That is the way with masters, of course, all over the world; still, they may be right in this instance. The strikers are taking an amusingly high hand. In fact, to quote a Paris journal, "They talk with authority to the Municipality of Lyons and demand the ruin of the manufacturers by imposing upon them the payment of enormous salaries."

50 years ago

Shortage of Fats

The U.S. Department of Agriculture reports that certain factors restricting production may prevent the world fats and oils output reaching the 1935-39 level for three years or more. Because of political unrest, years may be required for the restoration of normal production of Manchurian soya beans and Sumatra palm-oil. Antarctic whale-oil production has been limited to about one-half the 1935 level by international agreement, the Department said.

FINANCIAL TIMES

Wednesday October 2 1996

Sydney offers Olympic seating at golden prices

By Nikki Tait in Sydney

Sports fans eager to secure seats at the Sydney Olympic Games in 2000 saw their first opportunity yesterday with the launch of an innovative A$365m ($289.6m) public offering of securities in the city's yet-to-be-built Olympic stadium.

Investors are being offered 34,400 "gold passes", which will combine equity ownership in the facility with reserved prime seating for all Olympic events at the stadium.

The gold packages have been priced at A$10,000 each, and will raise A$344m. The offer will open next week and the closing date for applications will be November 29.

In addition, there will be a smaller separate offering of 600 "platinum" packages – which offer two guaranteed seats at a cost of A$34,000 each. This will raise another A$20.4m.

Part of the funds raised from the offering – about A$65m – will go to the Olympic Co-ordination Authority, the body responsible for the construction of the facilities at the Sydney games. But the net proceeds should total just under A$300m, providing almost half the estimated A$615m cost of the stadium's development.

Remaining funding for the 110,000-seat stadium – which is being built by a consortium which includes Japan's Obayashi Corporation and Australia's Multiplex group – will come from a mixture of debt and equity. The public offering has been fully underwritten by four local broking firms.

Yesterday, directors of Stadium Australia attempted to deflect criticism that the scheme would be prohibitive for "average Australians". The gold packages would be sold only to individuals, family companies and family trusts, and subscribers would not able to apply for more than six packages each.

In addition, Mr Peter Ritchie, chairman of Stadium Australia, said bank finance would be made available "to those who do not have immediately available funds, subject to normal credit checks". The stadium management, he added, did not want "silvertails sitting on memberships that are never used. We want members who are going to use the stadium".

Aside from the Olympic access and the equity interest in the stadium, the gold packages will confer membership of the Stadium Australia club for 30 years – providing entry to most other sporting events held at the stadium after the Olympics, as well as preferential booking rights to events such as concerts.

Initially, these "gold membership" rights will transfer automatically if the equity investment in the stadium is sold.

The equity units will be listed on the Australian Stock Exchange, it is hoped by the end of this year.

Applicants for the gold packages will be able to nominate alternative recipients for their Olympic tickets, and also transfer these to different people in the future. However, there will be a ban on any ticket trading or reselling.

100,000 strike in German benefits cuts row

By Wolfgang Münchau in Frankfurt

More than 100,000 engineering workers took part in mass protests throughout Germany yesterday as several companies went ahead with controversial cuts in sick pay benefits.

The protests came on the day a law took effect which cuts the minimum statutory sick pay benefit from 100 per cent of wages to 80 per cent.

Tensions rose at Daimler-Benz, Germany's largest industrial group, which last week became the first large company to announce plans to make the cuts.

About 16,000 workers walked out at one of the company's main factories in Stuttgart, and 12,000 at plants in Bremen and Mannheim.

About 12,000 workers at the Rüsselsheim plant of Adam Opel, the subsidiary of General Motors, staged a protest and another 10,000 walked out at Ford's car plant in Cologne.

IG Metall, the engineering union, has threatened legal action against companies implementing the new rules in cases where existing labour contracts give specific sick pay guarantees.

Mr Karl Feuerstein, head of the works council at Daimler-Benz, which previously prided itself on its excellent labour relations, said the cuts in sick pay were poisoning the industrial relations climate.

"We are incredibly bitter. The company cannot breach the law with impunity. We are not living in a banana republic," he said.

Mr Feuerstein claimed the strikes had cost the company DM200m ($135.1m) in lost production. This would exceed the DM140m which the company said it would save each year in reduced sick pay bills.

The dispute has led to a series of legal claims and counter claims. IG Metall says the cuts at Daimler are illegal because most workers have labour contracts that guarantee 100 per cent sick pay.

The management at Daimler-Benz and other companies insist the new law overrides existing contracts. There is widespread disagreement among German labour lawyers on the issue.

However, several large German companies have refused to follow the Daimler-Benz lead. Volkswagen, BMW and Porsche all said they would stick to current arrangements.

Siemens, the electronics group, which first followed Daimler's decision to cut sick pay, said yesterday it may now seek a deal with its workforce. The company will keep paying full sick pay for the time being but would take the issue into account in future negotiations.

THE LEX COLUMN

De Benedebti

Olivetti's financial position looks increasingly precarious. Net debt nearly doubled to L2,394bn ($1.57bn) in the two months to the end of August. Seasonal factors are partly to blame; so is the cost of paying for its restructuring programme. But there are also worrying signs that Olivetti's suppliers and financiers are losing patience: during July and August, the company did not raise as much money as normal from securitising and factoring its commercial credits. Nor was it, apparently, able to delay payments to its suppliers.

There is probably no immediate danger of Olivetti's running out of cash, since it has traditionally held high levels of financial assets. Still, the L1,930bn of cash and financial assets it had at the end of June has presumably been considerably depleted. The company will need more cash in coming months to cover losses and pay for redundancies. It also seems unlikely that Olivetti will be able to rid itself of its troublesome personal computer division without parting with cash.

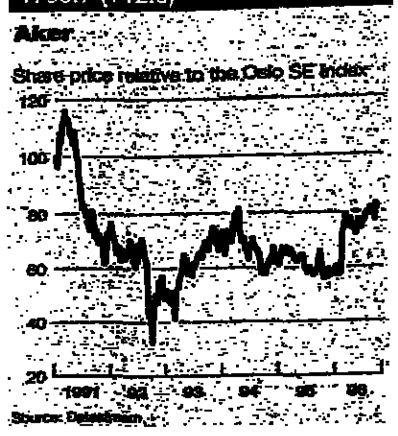
Olivetti is optimistic that disposals will fill the funding gap. That would certainly be preferable to yet another rights issue or a debt-for-equity swap, which would massively dilute shareholders. The snag is that Olivetti has made so many false predictions in the past that investors can have little confidence in the latest promises from a board that is still controlled by Mr Carlo De Benedetti, the ex-chairman.

Aker/RGI

If the NKr9bn ($1.38bn) merger of Aker and RGI is meant to create a Norwegian national champion, it is the sort of champion investors can do without. What will become Norway's fifth largest company claims to be "focused" – using a novel definition of the term – on fishing, cement and oil equipment. On top of that come shipbuilding, materials handling, sports shops and publishing. Worse, all three main businesses are merely part-owned and two have separate listings. So Aker RGI will be little more than a holding company, such as the ones that control Sweden's Wallenberg family empire – though without the Wallenbergs' impressive record.

Aker shareholders might also question RGI's motivation. By taking a big stake in Aker and then instigating the removal of its chairman and chief executive this spring, it has bounced its more sedate partner into this merger. The driving force behind RGI is Mr Kjell Inge Røkke, a 38-year old entrepreneur, who will personally end up with a third of the enlarged company. While he deserves credit for building up RGI, which apparently catches one in every 12 of the world's fish, he has little experience outside that industry. RGI's real aim may be to use Aker's respectability and good political contacts to bring about a restructuring of Norway's fishing industry. Certainly, there is neither industrial logic nor any cost savings to justify this deal. And the first thing Aker RGI will have to do is find a new chief executive.

FTSE Eurotrack 200:
1790.7 (+12.0)



Source: Datastream

UK water

Sitting on the desk of Mr Ian Lang, Britain's trade secretary, are some fat tomes from the Monopolies and Mergers Commission. Most likely, they recommend hefty price cuts for South West Water customers in return for allowing bids for the company from Severn Trent and Wessex Water. The result, assuming the price cuts are not too tough, will presumably be a bizarre auction.

Doubtless, such a battle would be fun. But shareholders in the bidders should beware; the risk of overpaying in an auction is high. As Scottish Power's misguided acquisition of Southern Water showed painfully clearly, competition between bidders – even for boring water companies – can get badly out of hand.

Nor has the debate so far been reassuring. Many, for instance, argue that Wessex has a powerful advantage just because it is smaller; buying South West would thus enhance Wessex's earnings more than Severn Trent's. Arithmetically, this is true enough – but as a reason for bidding high it is gibberish. The question for any bidder is not how far an acquisition enhances earnings but whether the price is more or less than the target is worth. From this point of view, Wessex's size is irrelevant: it should pay more than Severn Trent only if it can add more value.

Maybe it can: Wessex is next door to South West and should be able to cut out a bit more cost. Yet neither bidder would find it easy to add as much value as another potential purchaser not currently in the frame: Sweb, a subsidiary of the aggressive Southern Company of the US. As the local power company, Sweb could almost certainly take out more cost than any non-overlapping water business. Moreover, eccentric regulation means Sweb, unlike a water bidder, might well not have to offer price cuts to customers. It looks an obvious potential white knight.

Meanwhile, Severn Trent shareholders deserve a convincing explanation for the company's participation in this high-stakes game. Could it really not go for another water company where no rival bidder exists? Or better, why not launch a bid which would make even more sense: for the local independent power company, East Midlands? Again, water-electricity should trump water-water: price cuts should not be needed and cost savings should be greater.

Of course, this underlines the odd consequences of the water regulator's enthusiasm for keeping companies apart so he can compare them; this is his justification for penalising water-water mergers through price cuts. The concern is understandable, but given the current number of water companies looks overdone. And it has serious disadvantages. It creates a bizarrely lumpy playing-field, pointlessly favouring water-electricity deals over water-water ones. And it artificially discourages mergers which would ultimately benefit customers through economies of scale.

It would be welcome, therefore, if Mr Lang were to take the opportunity of the South West Water case to impose some sense and rewrite the rules. Sadly, since this would mean overruling politically convenient price cuts, investors should not count on it.

Lex comment on Labour, Page 21

EU to seek ruling on US trade law

Continued from Page 1

US would be required to repeal the legislation, compensate its trade partners or face trade retaliation.

The US is expected to argue that its laws are covered by a rarely-invoked national security exemption. Deciding whether such a claim was valid could present a WTO disputes panel with an acute political dilemma.

Officials expected the EU also to challenge the D'Amato Act, which penalises foreign investors in the Iran and Libya. However, Brussels must first file a complaint with the WTO and hold 60 days of consultations with the US.

The EU's display of resolve appears partly to mounting frustration that Washington is not taking it seriously as a political force.

Resentment has been exacerbated by President Bill Clinton's failure to invite European representatives to the Middle East summit in Washington.

Yesterday's decision was also influenced by delay in agreeing to EU blocking statutes, designed to negate the impact of the Helms-Burton and D'Amato laws.

The proposed statutes are based on three different articles in the Rome Treaty and need to be sent to the European parliament before securing unanimous approval by the Council of Ministers.

Kremlin 'accused of freezing gas giant's accounts'

By Chrystia Freeland and John Thornhill in Moscow

Gazprom, Russia's powerful natural gas monopoly, yesterday accused the government of freezing its bank accounts as punishment for unpaid taxes, according to Russian news agencies.

The report could signal an unprecedented rift between Russia's wealthiest and most influential corporation and the government.

The move would be welcomed by some international financial institutions, which have pressed the Kremlin to crack down on the nation's richest companies in an effort to increase its low levels of tax collection. However, the measure would also coincide with Gazprom's decision to launch a long-awaited offering of its shares to western investors later this month.

Speaking to Russian journalists, Mr Rem Viakhirev, the chairman of Gazprom, yesterday announced that the government had frozen the giant concern's bank accounts.

According to the Russian news agency Interfax, Mr Viakhirev said the government was also preparing inventories of the property of several Gazprom subsidiaries and had threatened to auction them off if the company did not pay overdue taxes.

Mr Viakhirev denounced the government's move and said that Gazprom's debts to the treasury had been caused by the failure of many natural gas consumers to pay their own bills to the corporation.

According to Mr Viakhirev, the company owes about Rbs15,000bn ($2.8bn) to the government in overdue taxes. But he said that Gazprom was owed Rbs48,300bn by its customers. Gazprom's biggest debtors included the cities of Moscow and St Petersburg and Russian regions such as Tiumen, Nizhny Novgorod and the autonomous republic of Tatarstan, he added.

The reported rift between Gazprom and the government astonished analysts, who had believed that the company's close links with Mr Victor Chernomyrdin, the Russian prime minister and former gas monopoly chairman, would have ensured favoured status.

The altercation suggested an abrupt end to the previous implicit arrangement whereby Gazprom provided hugely subsidised natural gas for Russian consumers in exchange for a tolerant government view of tax arrears.

Mr Stephen O'Sullivan, an oil and gas analyst at MC Securities, stressed there was as yet no confirmation of the Russian agency reports, but said the incident could imperil Gazprom's planned international share offering.

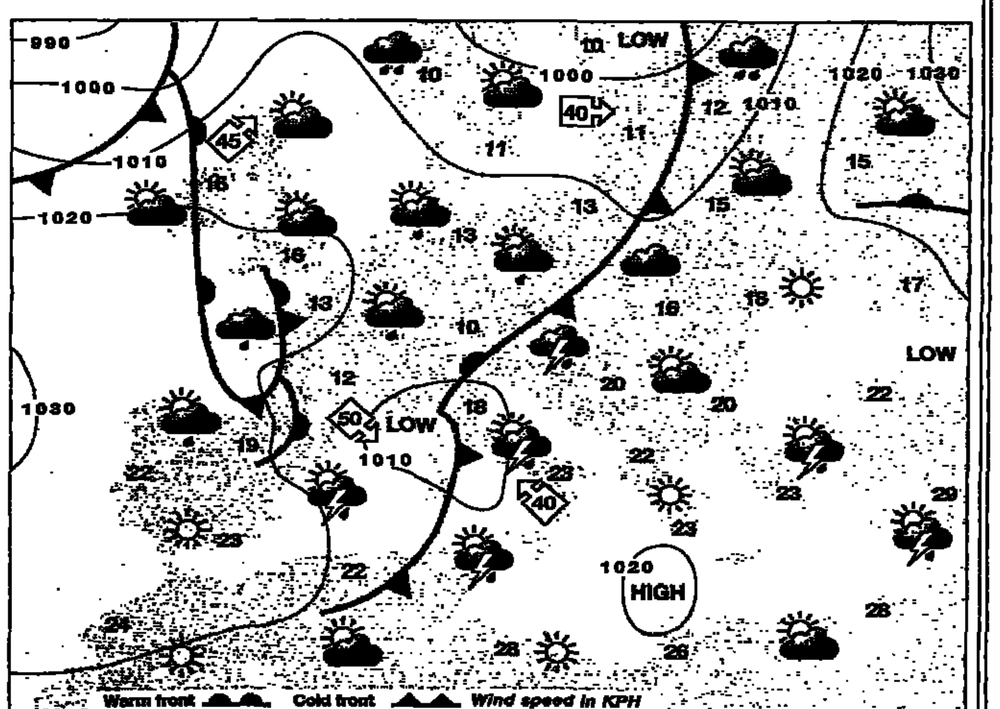
FT WEATHER GUIDE

Europe today

Most of the UK will have sunny spells but rain will spread into north-west areas later. The Alps will have torrential rain. Italy will have thunder showers. Northern Spain, southern France, the eastern Baltics and northern Russia will have rain. The Balkans will be calm and sunny. Southern Spain and Portugal will be warm and sunny. Germany and the Benelux will have showers and sunny spells.

Five-day forecast

The central Mediterranean area will be unsettled. Italy will have plenty of rain, which may give rise to floods in some areas. North-western Europe will stay unsettled. Spain, Portugal and the Balkans will be fine.



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

TODAY'S TEMPERATURES

	Maximum	Beijing	fair 21	Caracas	fair 32	Faro	sun 25	Madrid	fair 21	Rangoon	thund 32
	Celsius	Belfast	cloudy 16	Cardiff	fair 15	Frankfurt	fair 14	Majorca	fair 21	Reykjavik	rain 9
Abu Dhabi	sun 36	Belgrade	fair 22	Casablanca	sun 22	Geneva	rain 13	Malta	fair 25	Rio	shower 27
Accra	thund 31	Berlin	fair 12	Chicago	shower 21	Gibraltar	sun 23	Manchester	fair 14	Rome	thund 24
Algiers	shower 21	Bermuda	cloudy 28	Cologne	fair 13	Glasgow	fair 15	Manila	thund 32	S. Frsco	sun 21
Amsterdam	shower 14	Bogota	cloudy 19	Dakar	thund 31	Hamburg	shower 12	Melbourne	shower 18	Seoul	shower 24
Athens	fair 23	Bombay	cloudy 31	Dallas	sun 31	Helsinki	rain 11	Mexico City	thund 26	Singapore	shower 31
Atlanta	shower 25	Brussels	shower 14	Delhi	sun 34	Hong Kong	fair 30	Miami	fair 33	Stockholm	fair 12
B. Aires	fair 22	Budapest	cloudy 18	Dubai	sun 37	Honolulu	fair 31	Milan	rain 16	Strasbourg	cloudy 13
B.ham	fair 14	C.hagen	cloudy 12	Dublin	fair 17	Istanbul	shower 20	Montreal	shower 21	Sydney	sun 21
Bangkok	thund 32	Cairo	fair 32	Dubrovnik	fair 21	Jakarta	fair 32	Moscow	fair 15	Tangier	sun 23
Barcelona	fair 21	Cape Town	fair 16	Edinburgh	fair 15	Jersey	fair 15	Munich	rain 11	Tel Aviv	sun 30
						Karachi	sun 35	Nairobi	thund 25	Tokyo	fair 23
						Kuwait	sun 42	Naples	rain 22	Toronto	rain 21
						L. Angeles	sun 24	Nassau	fair 31	Vancouver	fair 16
						Las Palmas	fair 27	New York	fair 23	Venice	rain 17
						Lima	cloudy 20	Nice	thund 19	Vienna	rain 16
						Lisbon	sun 25	Nicosia	fair 28	Warsaw	cloudy 15
						London	fair 16	Oslo	fair 12	Washington	fair 25
						Lux.bourg	fair 12	Paris	fair 15	Wellington	fair 15
						Lyon	shower 13	Perth	fair 22	Winnipeg	fair 8
						Madeira	sun 23	Prague	cloudy 13	Zurich	shower 11

FINANCIAL TIMES
COMPANIES & MARKETS
Wednesday October 2 1996

IN BRIEF

Aker and RGI revive merger

Aker and RGI, the Norwegian industrial groups, announced a merger to create one of the country's biggest listed companies – just 24 hours after saying talks had broken down. Mr Kjell Inge Røkke, the founder and main shareholder in RGI will personally hold a 33 per cent stake in Aker RGI, which will have turnover of NKr19bn ($2.9bn) and a projected market capitalisation of NKr9bn. Page 16; Lex, Page 14

SGB to consider Tractebel merger
Société Générale de Belgique, Belgium's largest holding company, said it would consider merging Tractebel, the energy and engineering group of which it took full control this week, with its subsidiary Powerfin. The group also reported an increase in first-half net profits from BFr6.34bn to BFr6.72bn ($214m). Page 16

Strong demand lifts Valmet 60%
Buoyant global demand for paper-making machinery pushed up profits 60 per cent to FM619m ($135m) at Finland's Valmet, one of the world's top forestry industry machine makers, in the first eight months of the year. Page 17

Wells Fargo 'most profitable bank'
Wells Fargo, the California retail bank, was the most profitable bank in the world last year after adjusting for different inflation rates and ratios of capital to assets, according to a study by IBCA, the European bank rating agency. Page 18

IT groups' move bolsters GSM standard
An initiative involving 12 leading information technology companies – including International Business Machines, Intel, Microsoft and Compaq – to improve communications between personal computers and mobile phones looks set to confirm the European standard for mobile digital telephony, GSM, as the worldwide standard. Page 18

Coles Myer dips 33% in year
Coles Myer, Australia's biggest retailer and the focus of an institutional battle over corporate governance standards last year, announced a 33.8 per cent fall in full-year after-tax profits from A$423.4m to A$280.4m (US$221.9m). Page 20

Companies in this issue

Market Statistics http://www.FT.com

Chief price changes yesterday

FRANKFURT (DM)			
Rises			
Allianz	1270	+	33
Henkel	67.48	+	1.08
Hertie	179	+	5.5
SGL Carbon	181.7	+	3.7
VEW	495	+	17
Falls			
Victoria Hldgs	1002	−	18
NEW YORK ($)			
Rises			
Destec Engy	13¾	+	1½
Lear Corp	34½	+	1⅛
World Color	23¾	+	1¾
Falls			
America Online	32	−	3¾
Bowater	35⅞	−	2⅛
Vencor	28¾	−	3⅛
LONDON (Pence)			
Rises			
Cobham	669½	+	37
Fairway	106½	+	14
Lloyd Thompson	182	+	12½
Falls			
Cardinal Bus.	12	−	4
Cons. Gold	27½	−	7½
Pan Andean	40½	−	74½
TORONTO (C$)			
Rises			
Cinar Films B	37.00	+	3.00
Hummingbird	40.90	+	2.35
Queensway Fin	17.00	+	1.50
Falls			
Alphanet Tel	21.00	−	1.50
Dover Inds	16.25	−	0.75
Goran Capital	34.75	−	1.10
PARIS (FFr)			
Rises			
Accor	656	+	18
Damart	3759	+	94
Pathe	1340	+	21
Sanofi	436	+	12.8
Falls			
Air Liquide	785	−	15
Canal Plus	1249	−	21
TOKYO (Yen)			
Rises			
Aoki Corp	378	+	21
Falls			
Chiba Bank	860	−	30
Koito Mfg	802	−	27
Nissan Diesel	580	−	34
Orient Corp	690	−	27
Skylark	2080	−	60
HONG KONG (HK$)			
Rises			
Dransfield	0.65	+	0.175
Oriental Press	3.925	+	0.175
Star Entertain	1.90	+	0.35
Falls			
HK Macau	3.675	−	0.175
SCMP (Hldgs)	5.55	−	0.20
Television Brd	27.90	−	0.85
BANGKOK (Baht)			
Rises			
Dusit Thani	33.00	+	3.00
Dynasty Cerm.	22.50	+	1.75
Prime Finance	46.00	−	4.00
Union Pioneer	20.75	+	1.75
Falls			
Nation Multime	81.50	−	5.00
Navakij Ins	104.00	−	6.00

New York & Toronto prices at 12.30.

SA Breweries expands in Poland

By Christopher Bobinski in Warsaw and Roderick Oram in London

South African Breweries, which will price a $300m international equity issue on Friday, yesterday became the world's fourth-largest brewer when it acquired control of Tychy, one of Poland's largest producers.

It overtook Brahma of Brazil, but with about 38m hectolitres of annual capacity it lags behind Anheuser-Busch of the US with 107m hectolitres, Heineken of the Netherlands at 64m, and Miller, a Philip Morris subsidiary, with 54m.

With its partner, Euro Agro Centrum, a local food processing company, SAB will have 20 per cent of the Polish market through Tychy and the Lech brewery in Poznan, which they already own. SAB is the largest brewer in Hungary, and two imminent deals will make it the leader in Romania.

SAB, which has a virtual monopoly of its domestic market, only began to expand outside southern Africa in 1993. It has focused on eastern Europe and China, while also pushing north in Africa. In its fiscal year ended March 1996, it produced 24.6m hectolitres of beer in South Africa and 11.4m abroad. Half the proceeds from the $300m share issue will fund expansion in eastern Europe; a quarter will be spent in China; and the balance in Africa, excluding its home market.

The issue is the first for cash in SAB's 101 years. Previously, shares were issued only for acquisitions.

"The South African market is a massive cash cow and growing at about 4 or 5 per cent a year," one London analyst said. SAB's developing world expertise is also a benefit in its international expansion.

SAB's beer profits have risen from R533m in fiscal 1992 to R1.18bn ($259m) in fiscal 1996, of which R1bn were from South Africa. The group, which also has retailing, hotel and manufacturing interests, achieved a 29.8 per cent return on capital last year.

Shares in SAB, the largest consumer goods company in emerging market indices, are already traded in Johannesburg and London. Investors are offered the option of new shares or American Depository Receipts, paper offered in lieu of underlying shares. Robert Fleming is the bookrunner for the deal, and Cazenove and SBC Warburg are the brokers.

In their latest Polish deal, SAB and EAC have agreed to pay $75m for a 52 per cent stake in the Tychy brewery, with the state retaining 33 per cent and 15 per cent going to employees.

SAB and EAC have said they will invest $115m in Tychy over the next five years. Of this, $26m will be spent in the next 12 months.

The group's purchase of Tychy, which reported a 30.1m zloty ($10.7m) net profit last year on sales of 226.9m zloty, gives SAB a strong position in the industrial district of Silesia, which has a tradition of beer consumption.

Bond issuance reaches $509bn

By Conner Middelmann in London

The volume of new issues of international bonds has reached a record level already this year, with issuers taking advantage of relatively low interest rates and greater stability on financial markets.

Figures for the first nine months of 1996 released yesterday by Capital Data Bondware, a London capital markets data base, show that borrowers have raised $509bn in new bonds, compared with $464.6bn for all of 1995, itself a record year. Many have already pre-funded their borrowing requirements for the whole year.

"Buoyant underlying government bond markets, the non-inflationary environment and stable currencies have spurred strong demand for bonds," said Mr Eden Riche, a syndicate manager at Morgan Stanley, the US investment bank.

Heavy buying by institutional investors has led to sharp price rises in the secondary markets. The resulting fall in interest rates – or yields – has encouraged many less creditworthy borrowers to tap the markets.

Borrowers from the emerging markets of Latin America and eastern Europe have been particularly active, and have been able to issue longer-dated debt. Mexico and the Philippines, for example, have issued 20-year bonds in recent months.

"Many investors are now buying lower-rated credits than they used to, to boost their overall returns," said a dealer from a European bank.

Investors have also snapped up so-called "asset-backed" securities – bonds secured against underlying assets, such as bank loans – which also offer higher returns than more conventional paper.

According to Capital Data, considered an authoritative source in the bond market, about $65bn in ABSs have been issued so far this year, up from $37.6bn in all of 1995.

In addition, issuance has been buoyed by the high volume of redemptions. In the dollar sector alone, some $115bn of bonds are due to mature this year, compared with $89bn last year.

International capital markets, Page 22

BBV acquires 30% holding in Argentine bank

By David White in Madrid and David Pilling in Buenos Aires

Spain's Banco Bilbao Vizcaya is to strengthen its growing presence in Latin America by acquiring a 30 per cent stake in Argentina's Banco Francés del Río de la Plata, in a deal worth $350m.

The purchase will bring to more than $1bn the investments made in Latin American banks by BBV in the last two years as part of a strategic reorientation of the group. Banco Francés, founded 110 years ago, ranks as the third-largest private bank in Argentina, and is considered by many analysts as the best-run local bank.

Agreement on the deal was announced in Washington by Mr Emilio Ybarra, BBV chairman, and Mr Luis Roque Otero Monsegur and Mr Luis María Otero Monsegur, chairman and vice-chairman respectively of the Argentine bank.

Under the plan, BBV will take over management control of Banco Francés, which has assets of about $3.75bn. Francés, with 93 branches and 1,650 employees, registered a pre-tax profit last year of $105m in spite of the after-effects of the Mexican devaluation which dented the profits of many Argentine banks.

The shares are being bought from the Otero Monsegur family and smaller private interests. As part of the deal, these family investors are due to take up an unspecified number of shares in BBV.

The deal, which values Banco Francés' shares at $29, is awaiting approval by the relevant authorities in Argentina, Spain and the US, where both banks' shares are listed.

Ms Ashley Farrar, a Buenos Aires-based analyst at ING Barings, said BBV had achieved an exceptional deal, if the $29 price tag was confirmed. This represented a premium of only 6 per cent over Monday night's closing price, less than half the premium paid in other recent purchases of Latin American banks.

"BBV specialises in consumer retailing and has a strong capital base," said Mr Daniel Tassan-Din, head of research at Deutsche Morgan Grenfell in Buenos Aires. "This should give Francés the know-how to be more aggressive in taking market share away from other retail banks."

Francés was traditionally a corporate bank and has only moved strongly into the growing retail sector in the past five years. Analysts said BBV's acquisition should allow Francés access to cheaper and longer credit lines, enabling it to lend at cheaper rates.

BBV's move into the Argentine market is the latest step in a series of recent initiatives by the group and its main Spanish rivals, Banco Santander and Banco Central Hispano in Spanish-speaking countries of Latin America. It follows closely on completion of BBV's purchase of a 40 per cent stake in Banco Ganadero, the top-ranking bank in Colombia, for $328m.

Dutch bank in talks on unit sale

By Gordon Cramb in Amsterdam

ABN Amro, the largest Dutch banking group, is in talks which may lead to the sale of MeesPierson, its domestic merchant bank.

ABN Amro said last night it had "been approached by a number of parties interested in acquiring its wholly-owned subsidiary". This interest "coincides with a broader review of the strategic options of MeesPierson".

The unit, which can trace its roots back to 1720, is in its present form the product of a 1993 merger between Bank Mees & Hope and Pierson, Heldring and Pierson. They were owned respectively by the two constituent banks of ABN Amro, which joined forces two years earlier.

ABN Amro, owner of the London stockbroker Hoare Govett, has been expanding its fund management presence in the UK, with agreements last month to take over Causeway Group and Carrington Pembroke, two independent investment managers.

But while the parent has seen strong growth, MeesPierson has fared less well. A reduction in operations led, for example, to a lower contribution from its asset management activities last year, while operating profits overall at the unit rose only 1.6 per cent to Fl 182m (£68.1m). This compares with a group total of Fl 3.84bn, up 14.2 per cent.

Picture: Tony Andrews
Jan Kalff: internal competition a problem to be solved

Assets at the merchant bank, at Fl 34.1bn, represent more than 6 per cent of the ABN Amro total. They were reduced by Fl 4.1bn during 1995 as its mortgage business was sold. This removed one element of a wide overlap between services offered by MeesPierson and its parent.

Along with rationalising the ABN Amro retail branch network, this internal competition has been seen as a problem for Mr Jan Kalff, group chairman, to resolve.

"It has been an issue whether it makes sense to integrate more closely with the parent bank or gain greater value outside with another owner," said Mr Robert Law, banking analyst with Lehman Brothers in London. "It appears they have gone down the latter route. Something was always going to have to happen."

No immediate strong candidate as a buyer emerged last night, but an institution from another European Union country was seen most likely.

Barry Riley

Pitfalls in the hunt for happier returns

Underperforming pension fund managers are this week embarking nervously on what could be a make-or-break final quarter. But is simply chucking out one set of managers and hiring another a solution to the problem of poor returns? True, an investment consultancy industry has been built on that premise. But now here comes The WM Company, the performance measurement consultancy, with a revealing statistical analysis.* Trigger-happy plan sponsors should pause for thought.

WM has mined its UK database to unearth the results of manager changeovers. In particular, it has focused on municipal pension funds, where there is a legal requirement upon local authorities for three-yearly manager reviews.

It has found 25 cases since 1988 in which there has been a like-for-like change of external balanced managers with standard balanced mandates. The year of change ("event year") was mostly between 1991 and 1993.

As you would expect, the sacked managers had been performing badly. In the three years before event year their results were inferior by 2.4 per cent a year compared with the contemporaneous house average returns of the managers that eventually replaced them.

You can argue, however, that it makes as much sense to dispense with the services of outperforming managers. Clients who fired Newton at the end of 1993, when it topped the five-year performance league, or PDFM at the end of 1994, when it reached the same position, would have saved themselves some later headaches. But as WM comments, there are few plan sponsors brave enough to do that.

Remember that a manager change is a two-dimensional problem. You need to be confident that the new manager will do well. But you also need to consider whether the old manager might improve.

So what do the post-event year results indicate? Pensions industry folklore tells of trustees who switch from one disappointing manager to another only to finish up, in despair, with index-trackers. In fact, the WM study is not so perversely dramatic as to show that clients jumped consistently out of the frying pan and into the fire. Rather, the results are more or less random.

> You can argue that it makes as much sense to sack outperforming managers

Over three years the new managers slightly outperformed (by 0.2 per cent annually on average) the house averages of their predecessors. Nevertheless, of 17 funds with the required three-year data, 10 would have achieved a better return by sticking with their old managers (assuming house average results).

Switching managers, therefore, typically offers a route from below-average to average performance. This is not as good as the trustees will have hoped for, but it may not seem too disappointing.

But this leaves out the question of cost. When managers are changed, portfolios need to be revamped and consultancy fees paid. All too often the cost drops into a statistical black hole somewhere between the departure of the old manager and the arrival of the new.

Programme trading and portfolio restructuring services may minimise the costs. But WM has evidence that changeover costs are typically 2-3 per cent. This includes the total market costs of disruption, including forced selling, and identifiable expenses such as stamp duty and commission.

WM concludes that this can be a big price to pay for a marginal performance gain. Plan sponsors should be more prepared to work with their existing managers to discover the reasons for the underperformance and find ways of improving it. Perhaps redefining the mandate, or agreeing tighter risk and activity parameters, might be better ways of reversing the slide.

But managers currently propping up the performance league table over three or five years nevertheless know that without improvement by December 31 the axe will be poised to fall.

Does Changing Manager Improve Performance? The WM Company. Tel. 0131-315 2000

Aker and RGI say merger will go ahead

By Hugh Carnegy in Stockholm

Norwegian industrial groups Aker and RGI said yesterday they would merge to create one of the country's biggest listed companies – just 24 hours after declaring that merger talks had broken down.

In a rapid change of heart, the two companies said they had agreed to form a new group called Aker RGI, which will have a wide range of interests including offshore engineering, fishing and fish processing, cement, shipbuilding, materials handling, sportswear and sports equipment.

The merger marks the increasing prominence of Mr Kjell Inge Røkke, the founder and main shareholder of RGI who will personally hold a 33 per cent stake in Aker RGI.

The new group will have turnover of NKr19bn ($2.92bn) and a projected market capitalisation of NKr9bn. It will rank in Norway's top five listed companies, after Norsk Hydro, Kvaerner and Orkla.

A deal was struck just before midnight on Monday after a compromise over a disagreement on price that had derailed earlier talks. Alfred Berg, Aker's advisers, and Orkla Finance, RGI's advisers, brought the two sides together in a final attempt to reach a deal before the end of September. If they had failed this time, they could not under Norwegian rules have based a further agreement on their first-half accounts, but would have had to wait for third-quarter figures.

Under the agreement, the merger will be carried out through the purchase by Aker of 2.15 RGI shares for every one Aker share. RGI had originally demanded a ratio of 2 RGI shares for every Aker share, while Aker demanded 2.3 for each of its shares.

Shares of RGI, which is registered in the Dutch Antilles and was only listed in Oslo in July, fell NKr5.00 yesterday to close at NKr61. Aker A-shares fell NKr0.50 to end at NKr131.50.

Technically, Aker is buying RGI. In practice, however, the deal completes a takeover of Aker which began when RGI first bought into Aker in February. RGI subsequently built up a 30 per cent stake, with options on a further 10 per cent.

RGI, or Resource Group International, is the vehicle through which Mr Røkke has become one of Norway's most notable young entrepreneurs.

Aker RGI will hold a 51 per cent stake in Norway Seafoods, the world's largest catcher and processor of white fish. Other core interests will be an 80 per cent stake in Aker Maritime, the offshore engineering group, and a one-third holding in Scancem, the Nordic cement group. It is not clear what Aker RGI will do with its other interests.

The new group will be chaired by Mr Björn Rune Gjelsten, Mr Røkke's chief partner in RGI. A chief executive has yet to be named. The current Aker chief executive, Mr Tom Ruud, is due to leave his post at the end of this month after being forced to quit over an earlier disagreement about strategy.

Mr Gjelsten said that Aker RGI would have substantial investment capacity, both in the Nordic region and on a European scale.

Lex, Page 14

SGB considers merger of Tractebel, Powerfin

By Neil Buckley in Brussels

Société Générale de Belgique, Belgium's largest holding company, said it would consider merging Tractebel, the energy and engineering group of which it took full control this week, with Powerfin, a subsidiary of SGB.

The group also reported an increase in first-half net profits from BFr6.34bn to BFr6.72bn ($210m), in spite of what it called a difficult economic climate in Europe.

Viscount Etienne Davignon, SGB chairman, said the group had this week completed the BFr49bn acquisition from Groupe Bruxelles Lambert, the holding company, and Royale Belge, the insurance group, of a further 25 per cent of Tractebel. The acquisition took SGB's total stake to 65 per cent.

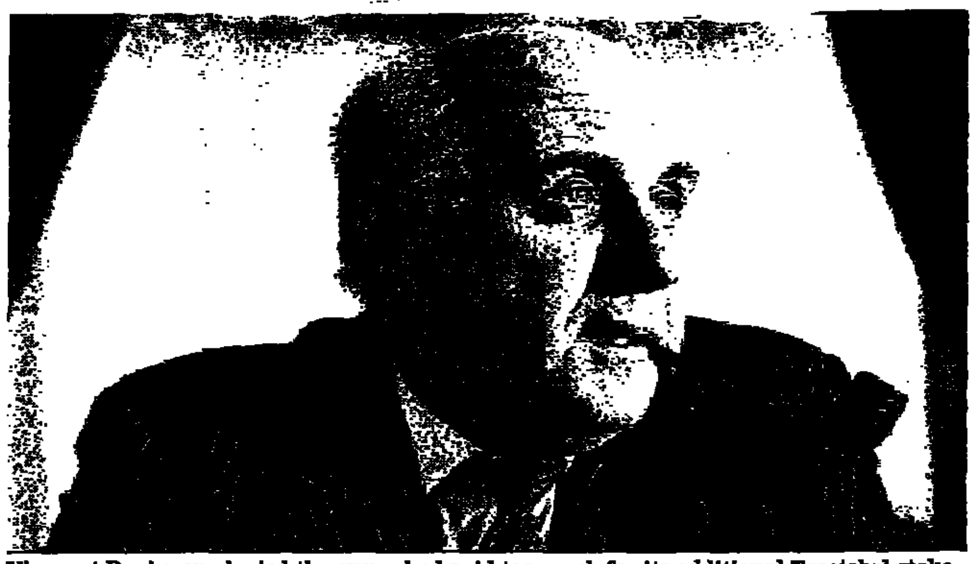
He also said SGB would consider merging the operations of Tractebel with Powerfin, its 60 per cent-owned subsidiary which is a vehicle for Tractebel's holding in Electrabel, Belgium's biggest electricity generator, and for its international expansion plans.

But it would take no decision until it knew the results of a share-price support exercise between October 9 and October 30, when small investors in Tractebel will be given the opportunity to sell their shares to SGB for the same BFr14,500-a-share price that SGB paid for its recent acquisition.

Viscount Davignon said SGB, which is 63 per cent owned by France's Compagnie de Suez, had a further BFr31bn at its disposal to purchase further shares in Tractebel.

Although a merger of Tractebel and Powerfin would mean a dilution of SGB's holding, analysts believe removal of this extra shareholding layer would be sensible. Viscount Davignon denied suggestions that the group had paid too much for its additional stake, emphasising his confidence in Tractebel's potential.

He added that the acquisition meant Tractebel now accounted for 42 per cent of SGB's portfolio, and took the share of its portfolio represented by its biggest three investments – Tractebel, Générale de Banque, and Fortis, the financial services group – to 72 per cent. This would make SGBless vulnerable to cyclical downturns.



Viscount Davignon: denied the group had paid too much for its additional Tractebel stake

All three businesses showed big increases in their contributions to SGB profits, with Fortis up from BFr997m to BFr1.21bn, Générale de Banque rising from BFr2.00bn to BFr2.30bn, and Tractebel up from BFr2.18bn to BFr2.21bn.

Contributions from the French companies Coficem and Accor also increased, but Recticel, the chemicals business, fell from a BFr27m profit to BFr144m loss, and the contribution from Union Minière, the metals group, fell from BFr427m to BFr301m. Exceptional items rose from BFr333m to BFr407.

Viscount Davignon said the group would not be forced to cut the dividend this year, in spite of the size of its investment in Tractebel.

World book market 'faces further consolidation'

Leading publishers

Publisher	1995 Sales ($bn)
[illegible]	[illegible]
Warner Books	3,722
[illegible]	[illegible]
Pearson	1,748
[illegible]	[illegible]
Random House	1,500
[illegible]	[illegible]
Planeta	1,364
[illegible]	[illegible]
Reed Books	1,111
[illegible]	[illegible]
HarperCollins	711
[illegible]	[illegible]
Dorling Kindersley	220
[illegible]	[illegible]

Source: Euromonitor estimates

By Alice Rawsthorn

The global book market has become increasingly consolidated in the 1990s, with the world's 10 largest book publishing groups controlling 25 per cent of a market worth $80bn at retail last year.

Bertelsmann, the German media group, is the biggest force in the industry with book sales of $4.77bn in 1995, according to a survey published today by Euromonitor, the research consultancy, on the first day of the Frankfurt Book Fair.

Warner Book, a subsidiary of Time Warner, the US entertainment concern, is the world's second largest book publisher with sales of $3.72bn, followed by Simon & Schuster, part of Viacom, with $2.17bn and Pearson (owner of the Financial Times) with $1.75bn.

Big publishers have steadily increased their global market share during the 1990s. Euromonitor identifies the most highly consolidated markets as Spain, France and Germany, where the three largest publishers command at least 50 per cent of total book sales.

In the US – the world's largest market, worth $25.49bn at retail last year – the "big three" accounted for 21 per cent of sales, with the 20 largest companies commanding 60 per cent.

Euromonitor expects the large groups to continue to gain market share in the late 1990s, with total book sales also expected to increase.

Retail sales rose 24 per cent from 1991 to 1995, and showed 8 per cent growth last year, largely because of price increases fuelled by higher paper prices. The global book market is expected to grow 10.6 per cent to $90.26bn at retail in 2000.

Central Europe will be the fastest growing region, with sales set to increase 19 per cent – to $1.57bn – by 2000. The Americas will show growth of 15.9 per cent, to $37bn, over the same period, largely because of a steep increase in Latin American sales.

However, Euromonitor warns that book publishers face a tough task in raising profitability, particularly in mass market fiction, where average margins have slipped below 10 per cent, against 20 per cent for educational non-fiction.

It also cautions that book publishers will no longer be able to sustain their traditional practise of depending on 10 per cent of titles for profit, with 90 per cent barely breaking even.

Another area of concern is the CD-Rom sector. Euromonitor suspects that the majority of large publishers are still losing money on the disks, which represent a large proportion of the electronic publishing market – worth $3bn at retail last year. CD-Roms' progress has been hampered by price sensitivity among consumers and by the reluctance of booksellers to stock them, given that the margins are lower than for books.

Publishing At The Crossroads: Euromonitor, 60-61 Britton Street, London EC1M 5NA. £3,950.

Winterthur advances to SFr248m

By William Hall in Zurich

Winterthur Group, the Swiss insurer, yesterday reported first-half net income up by almost a quarter, to SFr248m ($197.8m), and said it expected double-digit earnings growth for the full year.

Last year, it raised its net profits by 15.1 per cent to SFr419.2m.

Winterthur is the third leading Swiss insurer to release its first-half results over the last week, and its profit growth falls midway between that of Zurich Insurance (which raised its net income by a third, to SFr576.4m) and Baloise (which increased its profits by 14 per cent to SFr109m).

In common with the other insurers, Winterthur's performance was lifted by a strong rise in investment income reflecting the buoyancy of world stock markets.

Winterthur's gross premiums rose by 17 per cent to SFr14.3bn.

In non-life insurance the 22 per cent increase, to SFr8.4bn, was chiefly due to acquisitions made in the previous year.

The 11 per cent rise in life assurance premiums, to SFr5.9bn, reflected strong organic growth in Switzerland and some other European markets.

The group's investments have risen by 16 per cent to SFr78.3bn and shareholder equity after minorities rose by 10 per cent to SFr4.4bn.

The group has continued to pursue its co-operation agreement with CS Holding, the second biggest Swiss bank.

Since mid-year, the employee benefits divisions of Winterthur Life and CS, have been combined into Winterthur-Columna, which is now the leading provider of employee benefits in Switzerland.

Winterthur is the latest Swiss insurer to publish much fuller financial information at the halfway stage.

It has released consolidated half-year figures for the first time, but has not published complete comparable figures for 1995 because of the costs involved.

However, it disclosed that while its claims ratio on its non-life business rose from 73.3 per cent to 73.7 per cent, the expense ratios on both its life and non-life businesses fell.

Winterthur's decision to make a much fuller disclosure of its results at the halfway stage is part of a general move towards greater disclosure by Swiss insurers.

In the past, most Swiss insurers have limited their half-year statements to general comments about premium growth and have not released profit figures until the year-end.

However, there are still exceptions.

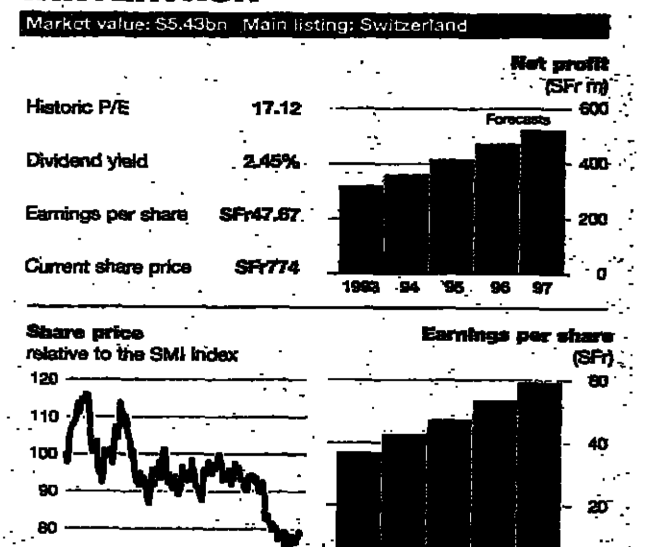
Swiss Re, the biggest Swiss insurer, which does not publish interim profit figures, has not even released its 1995 annual report yet.

PROFILE

WINTERTHUR

Market value: $5.43bn Main listing: Switzerland

Historic P/E	17.12
Dividend yield	2.45%
Earnings per share	SFr47.67
Current share price	SFr774



Source: Company report, Datastream, ABN Amro, Reuter

EUROPEAN NEWS DIGEST

KHD shares up on Saudi settlement

Shares in Klöckner-Humboldt-Deutz, the German engineering and plant group, jumped 14 per cent yesterday to DM8.45 after it said it would not have to pay penalty fees on at least one of the three Saudi Arabian cement plants which led to losses of DM1.06bn ($695m) in May. After four months of negotiations, Mr Anton Schneider, chief executive, had reached agreement with the Saudi Arabian clients that the plant at Yanbu would be finished in autumn 1997 and not earlier, the company said. KHD would also not be liable to provide services which were not explicitly mentioned in the original contracts.

KHD faced penalty payments of up to DM100m on the three plants because they were running behind schedule. The contracts had also been badly negotiated because the Cologne-based group might have been liable to supply unspecified extra services. KHD is still in talks to get penalty payments on the other plants at Hofuf and Rabigh waived but it is not clear when agreement might be reached, if at all, the company said.

Michael Lindemann, Bonn

New versions of Dax indices

Deutsche Börse, which runs the Frankfurt stock exchange, yesterday began producing versions of its main Dax stock indices without the inclusion of dividends. Aimed at helping analysts, these will be produced twice a day on the basis of prices of shares in the Dax performance index of blue-chips and the MDax index of medium-sized stocks. Non-dividend indices are already produced for the broader-based indices.

Andrew Fisher, Frankfurt

Spanish venture for Ahold

Ahold, the leading Dutch food retailer, has gained a foothold in the Spanish market through a joint venture announced yesterday with Caprabo, a privately-owned Barcelona company. The two are to develop supermarkets and hypermarkets in Spain and will start by taking over 10 Madrid outlets from Alfaro, another local operator.

The venture, called Store 2000, aims to build a nationwide chain outside Catalonia and the Balearic islands, where Caprabo will retain its own stores. It will continue expansion on the Iberian peninsula, where Ahold runs a profitable hypermarket business in Portugal. This summer the Dutch group, owner of the Albert Heijn chain, concluded the $1.8bn acquisition of Stop & Shop in the US, and is expanding in south-east Asia and central Europe.

Gordon Cramb, Amsterdam

KPN to separate cable TV

KPN, the Netherlands' privatised posts and telecoms utility, is to deconsolidate its cable television activities so that the unit can seek licences for regional fixed-line phone services. These are being granted from next July, when the parent's core business will be opened to competitors.

Vision Networks, as the present KPN Kabel subsidiary will be known, is to hold the group's 77 per cent stake in Casema, a large provider of cable TV services. KPN will "for the time being" retain full ownership but said Vision Networks would have its own supervisory board and only its dividend would count towards group results. This week KPN and Philips, the electronics group, ended talks aimed at combining their cable interests.

Gordon Cramb

Swedish bid talk dismissed

Svenska Handelsbanken dismissed rumours of a merger with Skandinaviska Enskilda Banken, another Swedish bank, saying a merger was not being discussed between them. "Against the recent background of speculation about a merger between SE-Banken and Handelsbanken, the board has decided at its meeting today to issue this statement, that the question from Handelsbanken's point of view lacks topicality," the bank said.

AFX News, Stockholm

Mercedes-Benz sales rise

Mercedes-Benz, the automotive division of Daimler-Benz, said sales rose 9.5 per cent in the nine months to September, while vehicle sales were up 12 per cent. In the eight months to August, sales rose 9 per cent to DM50.9bn ($33.4bn). Mr Helmut Werner, chairman, said recently he expected full-year sales to reach about DM75bn. The company expects to sell significantly more than 600,000 cars in the full year having seen nine months' car sales rise to 470,000. Western European car sales totalled 331,000 units in the nine months, up 14 per cent. French sales were up 22 per cent. Sales in Japan rose 45 per cent, while US sales climbed 19 per cent.

AFX News, Frankfurt

Fiat cuts Punto prices

Fiat, the Italian automotive group, has reduced the price of its Punto two-door hatchback model in France by 13.5 per cent to FFr51,200 ($9,919). The move comes after Renault announced price cuts across most of its range on Sunday, which in turn prompted Ford to reduce the price of its saloons by between FFr5,000 and FFr7,000.

Fiat's commercial offensive will also include a financing package aimed at securing customer loyalty, extended warranties and part-exchange deals, said Mr Jean-Pierre Vaillant, director of Fiat Auto France.

AFX News, Paris

CIC ahead 61% at halfway stage

By Andrew Jack in Paris

CIC, the French banking group currently being privatised, yesterday shrugged off the gloom in the sector when it reported net income up 61 per cent to FFr533m ($103m) for the first six months of the year.

Mr Bernard Yoncourt, CIC chairman, said GAN, the state-owned insurer which controls the bank, had decided to increase CIC's book value to FFr14.6bn, giving some indication of the potential value of bids for CIC.

Mr Yoncourt would not comment on the partial sell-off, which is reaching a critical stage as potential bidders examine the financial details of the bank.

However, he reiterated that the government, GAN and CIC itself were placing strong emphasis on the need for a buyer who would respect its structure as a "group of decentralised banks with regional identities across the country."

He added that he would expect a purchaser to respect the spirit of the FFr2bn in venture capital investments made across the CIC group in small, regional businesses.

In spite of complaints from many of France's larger banks that distortions of competition make the domestic market unprofitable, CIC reported banking revenues up 5 per cent to FFr8.6bn.

One-third of that figure now comes from commissions, including FFr243m in the first half from the sale of GAN insurance products – a partnership which must be maintained under the terms of the privatisation.

However, Mr Yoncourt highlighted yesterday the intense competition for business in France, suggesting that most banks were not respecting the norms for house loans set down last year by the Bank of France, and were lending at below cost.

Provisions rose to 62 per cent of the volume of doubtful loans during the period, including a FFr180m charge against an FFr800m loan to Eurotunnel. Provisions for doubtful property loans rose to 66 per cent.

CIC has recently combined Bonnasse, based in Marseilles, with Lyonnaise de Banque into a single subsidiary, reducing the total number of regional banks in its network from 12 to 11.

Mr Yoncourt said efforts to centralise certain functions were continuing.

Portuguese banks yet to prove might is right

Five groups now control 80% of assets but there is little sign of profit growth, says Peter Wise

After spending Es682bn ($4.4bn) on a series of acquisitions in the past 18 months, Portugal's big-spending banks must now prove to shareholders that their increases in size will produce greater profits.

A Es209.2bn purchase by Banco Português de Investimento (BPI), now in its final stages, completes a period of rapid consolidation in which five groups have gained control of more than 80 per cent of Portugal's banking assets.

Banks that were channelling all their energies into growth have now accomplished their takeovers, reduced their capital and – with some difficulty – begun to digest their acquisitions. The challenge now is profitability.

"Most of the banks who made acquisitions are simply not doing enough about restructuring and cutting costs," one London analyst says. "Trading gains will make net profits look good this year, but we are not seeing the improvements in cost structures that would benefit core earnings growth."

BPI is following in the footsteps of Banco Comercial Português (BCP) and Banco Pinto e Sotto Mayor. It is a relatively small bank leaping into the front rank by taking over a bigger competitor. Its acquisition of state-controlled Banco Fomento e Exterior (BFE) will more than double the group's assets to Es3,185bn and increase its branch network from 208 to 428 branches.

As financial groups prepare for the heavy cost of adapting to a single European currency and for the challenge of a single market in financial services, Portugal's acquisitive banks risk suffocating under the weight of their own purchases if they fail to cut costs aggressively.

BPI, which is making a bigger-than-expected Es30bn rights issue and issuing a further Es30bn in non-voting preference shares to help finance the BFE acquisition, has much to prove to investors. Some analysts estimate the takeover could dilute earnings as much as 25 per cent in the next two years.

Strategically, the merger is considered an almost perfect fit. There is little overlap between the branch networks of Banco Fonsecas e Burnay (BFB) and Banco Borges e Irmão (BBI), the retail banking divisions of BPI and BFE respectively. BFE's expertise in export financing and lending to large industrial companies complements BPI's focus on smaller companies and retailers.

Analysts have greater reservations about the Es2,615 a share that BPI is paying. The group offered only Es1,740 a share – later increased to Es1,980 – when it made a surprise bid for BFE last January. After rejecting this offer, the new socialist government sought competing bids, setting a minimum price of Es1,980.

BPI bid again, competing now with two other candidates. These, however, were rejected by the government before the question of price was even considered. By the time the bids were opened, the only envelope in the tray was BPI's.

So BPI's management and shareholders had to swallow the unpalatable fact that they could have bought BFE for much less. BPI is perceived to have paid over the odds although, at 1.42 times book value, it laid out less than the average 1.8 times book value paid in comparable Portuguese bank acquisitions.

"Our offer of Es2,615 a share was based on a far more rigorous examination of BFE than we were able to carry out before. We were also convinced that we would be competing against other bids," says Mr Fernando Ulrich, vice-president of the BPI group. "Our offer in January was only an initial bid that could have been increased if other offers emerged."

If BPI has overpaid for a second-rank bank, at least it knows what it is getting. "This has not been the case with other Portuguese takeovers," one Lisbon analyst says. "The culture of banks such as BCP has been damaged by acquiring groups with holdings in non-financial operations in which BCP has no experience."

BPI also has to show it has learned from a previous acquisition. When it moved into retail banking by buying BFB in 1991, the group took longer than expected to turn the purchase round. Although analysts praise BPI's success in improving BFB's asset quality, they had hoped for more aggressive cost-cutting.

"Five years ago we were an investment bank with a staff of 200 people taking over a retail bank with 3,500 employees and a host of problems," Mr Ulrich says. "Now we can use that experience to achieve synergies and cost rationalisation at BFE, which, unlike BFB in 1991, is already a very sound bank."

Achieving this would be the success that investors hope will confound analysts' gloomy assessments of the progress of Portuguese bank mergers. "We are hoping one of the groups will prove us wrong," a London analyst says. "But we haven't seen it happening yet."

Portuguese banks' consolidation

Share of total assets (%):

Before (end-1994)		After (current)	
CGD	24	CGD	24
BPA	15	BCP/BPA	20
BTA	12	BPSM/BTA	17
BES	9	BES	10
BCP	8	BFE/BPI	10
BFE	7	Mello	4
BPSM	6	Others	15
BPI	5		
Others	14		

Source: Portuguese Bankers Association, ING Barings, banks.

BPI Doubles its size...

(at end-June 1996, Es bn)

	BPI	BFE	BPI & BFE	Market Share %
Assets	1,442	1,743	3,185	19
Loans	440	693	1,141	10
Deposits	681	1,037	1,718	10
Branches	208	220	428	11
Employees	3,200	4,800	8,000	
Clients	500,000	680,000	1,180,000	

Source: BPI.

Valmet helped by buoyant demand

By Hugh Carnegy in Stockholm

Buoyant global demand for paper-making machinery pushed up profits by 60 per cent at Finland's Valmet, one of the world's top forestry machinery makers, in the first eight months of the year.

Although pulp and paper manufacturers have been hit by lower prices this year, investment in new and refurbished machines has fuelled a powerful performance by Valmet.

It reported a rise in pre-tax profits from FM386m to FM619m ($135m) in the eight months to the end of August. Earnings per share rose from FM3.51 to FM5.79.

The results were distorted by a change in accounting which exaggerated the increase in sales, which were shown growing from FM5bn to FM7.4bn. Profits in the second four months were lower than the first four months because of a FM100m one-time provision for restructuring measures.

But Valmet said underlying earnings continued to grow. It forecast stronger full-year profits than last year's pre-tax FM719m – the fifth successive year of improved performance – and said the outlook for 1997 was also positive. Valmet shares rose FM0.70 to FM76.50 yesterday.

In the main paper and board machinery division, sales reached FM6.1bn, including revenues from sales contracts not yet completed. On a comparable basis – including only completed contracts – sales rose from FM3.9bn to FM4.7bn.

Valmet said new orders in the first eight months totalled FM7.2bn, down from FM8bn in the same period last year.

Four of nine orders won during the period for complete new machines were from Asia. In September, Valmet won an order for a coated fine paper machine from Hokuetsu Paper, of Japan.

EUROPEAN NEWS DIGEST

Revamp set to lift Degussa earnings

Degussa, the German chemicals, precious metals and pharmaceuticals group, said yesterday it expected a structural reorganisation to help lift pre-tax profits by 50 per cent to about DM800m ($524.5m) over the next three years. Preliminary pre-tax profits for the latest year ended September 30 had improved slightly from the record DM404m last time, it said. Mr Uwe-Ernst Bufe, who took over as chairman in March, said the forecast profits increase was needed to lift Degussa's return on equity to 15 per cent after tax.

Degussa is grouping its 11 business units into three main divisions – chemical products, nutrition and health, and precious metals and the Degussa bank – each reporting to the management board. The reorganisation is aimed at decentralising management responsibilities and improving overall profitability.

Mr Bufe said the chemical products division, which has annual sales of about DM3.9bn, expected to lift its margins from 7 per cent to 10 per cent by 1998-99. The nutrition and health division, which includes the Asta Medica drugs subsidiary, aimed to increase sales by 29 per cent to DM3.5bn, resulting in a margin of between 10 per cent and 12 per cent. Results for the fiscal year are set to be released on November 19. *Sarah Althaus, Frankfurt*

Portucel to double output

Portucel Industrial, the Portuguese group which is Europe's biggest producer of eucalyptus pulp, plans to double the output of its 70,000ha of eucalyptus forest by 2003. The increase, from 450,000 cu m of timber a year to more than 1m cu m, is to be achieved through renewal of existing forests and the planting of genetically-improved trees. Mr Jorge Godinho, president, said this would enable Portucel to meet almost 50 per cent of its timber requirements, compared with 27 per cent today.

The group, which controls 104,000ha of forest, including pine, cork and oak as well as eucalyptus, forecasts substantially stronger performance in the second half of 1996 as international pulp prices recover from a sharp fall over the previous 12 months. The company has already increased prices three times since June, after they fell in April to less than half the level of their peak in July 1995. It suffered a net loss of Es2.9bn ($18.7m) for the first half of 1996, compared with a profit of Es8.3bn for the first six months of last year, as sales fell from Es37.1bn to Es22.8bn because of lower pulp prices. *Peter Wise, Lisbon*

KLM 'considers fuel levy'

KLM, the Netherlands-based airline, is considering a fuel levy on passengers to offset a sharp increase in the price of aircraft fuel, the newspaper Het Financieele Dagblad said, citing company sources. KLM is in talks with other airlines, but most members of the International Air Transport Association are against a levy on the grounds that the fuel price rise is temporary and a levy would be premature. KLM said the price of fuel had risen 30-40 per cent in recent months, noting this would raise costs by hundreds of millions of guilders. *AFX News, Amsterdam*

Novo Nordisk buys patents

Novo Nordisk, the Danish biotechnology group, said it was acquiring the industrial enzyme patents and technology of Showa Denko of Japan. Showa Denko had decided to withdraw from the industrial enzyme business, it said. *AFX News, Copenhagen*

Wells Fargo 'most profitable bank', IBCA says

By John Gapper, Banking Editor

Wells Fargo, the California retail bank, was the most profitable bank in the world last year after adjusting for different inflation rates and ratios of capital to assets, according a new study.

The survey by IBCA, the European bank rating agency, found that Wells Fargo last year pushed into second place Hang Seng Bank, the Hong Kong bank part-owned by HSBC Group, that has been leader in IBCA's annual survey over the past two years.

United Overseas Bank of Singapore was third, with Den norske Bank of Norway in fourth place.

The study shows that Asian banks outside Japan and US banks are more profitable than European counterparts, if the adjustments are taken into account.

It aims to show which banks are profitable in real terms, rather than benefiting from high inflation, and adjusts all banks' return on capital to reflect a constant equity to assets ratio of 5 per cent.

The effect is to lift the apparent profitability of less highly-geared banks, particularly those in Asia. However, the listings are not adjusted for the effects of economic cycles on asset quality.

● European banks have started to translate their heavy investment in building a presence in the US financial markets into improved positions in underwriting league tables, according to data for the first nine months of 1996, writes Tracy Corrigan in New York.

Union Bank of Switzerland and Deutsche Morgan Grenfell have both broken into the top 10 among US domestic investment grade corporate debt underwriters, with market shares of 2.7 per cent and 2.2 per cent, respectively, according to Securities Data. They jumped from 13th and 14th place in the same period last year to 9th and 10th position.

Although league table position does not reflect profitability, the tables are closely watched and can help banks win new business.

The task is even more daunting in equity underwriting. Deutsche Morgan Grenfell made it into 18th place, with a 1 per cent market share – a considerable leap from 125th for the same period last year. NatWest Markets came in at 20th place, helped by its acquisition of Gleacher, the mergers and acquisitions boutique.

GSM poised to become world standard

By Alan Cane in Berlin

An initiative to improve communications between personal computers and mobile phones looks set to confirm the European standard for mobile digital telephony, known as GSM, as the world standard.

A group of 12 leading information technology companies – including IBM, Intel, Microsoft and Compaq – yesterday agreed to ensure compatibility between their equipment and networks through the Mobile Data Initiative. The aim is to make it simpler for travellers with notebook computers to send electronic mail and data across Europe's GSM networks.

GSM is now the standard in 105 countries worldwide as mobile phone networks move from the older analogue type to digital systems. If the MDI is successful, it will greatly improve the chances of GSM's becoming the world standard for mobile voice and data telephony.

The US has no digital standard, but it already has about 100,000 GSM users and computer companies are apparently tired of waiting for another standard to become established.

Speaking at the Etre computer conference yesterday, Mr Hans Geyer, Intel's general manager for Europe, said: "Our [MDI] members will remove the technical and market barriers to wireless computing over the GSM network."

The MDI group gave no details of the funding for the initiative but said the chief objectives would be to raise awareness of mobile communications.

The other members of the group are the equipment suppliers Ericsson and Nokia, Toshiba of Japan and European GSM operators Cellnet and Vodafa of the UK and DeTeMobil and Mannesmann of Germany.

Arco digs deep to tap hidden reserves

Until foreign ventures bear fruit the US group must further exploit its US resources

Atlantic Richfield, the leading petrol supplier in California's highly-motorised marketplace, has bet heavily this year on prospering in the politically-risky oilfields of Russia and Algeria.

It has so far committed more than $5bn to joint exploration and extraction ventures – first with Algeria's Sonatrach, and this month with Lukoil, Russia's biggest oil concern.

Last week, Arco took out an insurance policy with a more familiar partner, Anadarko of Houston, which is to lead a joint exploration drive in Arco's traditional drilling grounds in Alaska.

The state has served Arco well since the late-1960s. When the company was only about a year old, its exploration teams discovered 14bn barrels of reserves in Prudhoe Bay – the biggest strike in US history. The little independent was suddenly a big player, and is now the seventh-largest oil group in the US.

After 10 years during which Alaska has yielded a steady 400,000 barrels daily for the Los Angeles-based group – more than 40 per cent of its production total – output has begun to shrink.

Arco's Alaskan crude production will fall 6 per cent this year and the decline will continue at that pace for the next few years at least, according to the company.

As exploratory drilling continues on Alaska's North Slope, from where results are due to be announced next month, the company set about implementing a "stretch" project in which it aims to find new reserves, probe for extra supplies in existing fields, and use new technologies to squeeze extra oil from existing underground reservoirs.

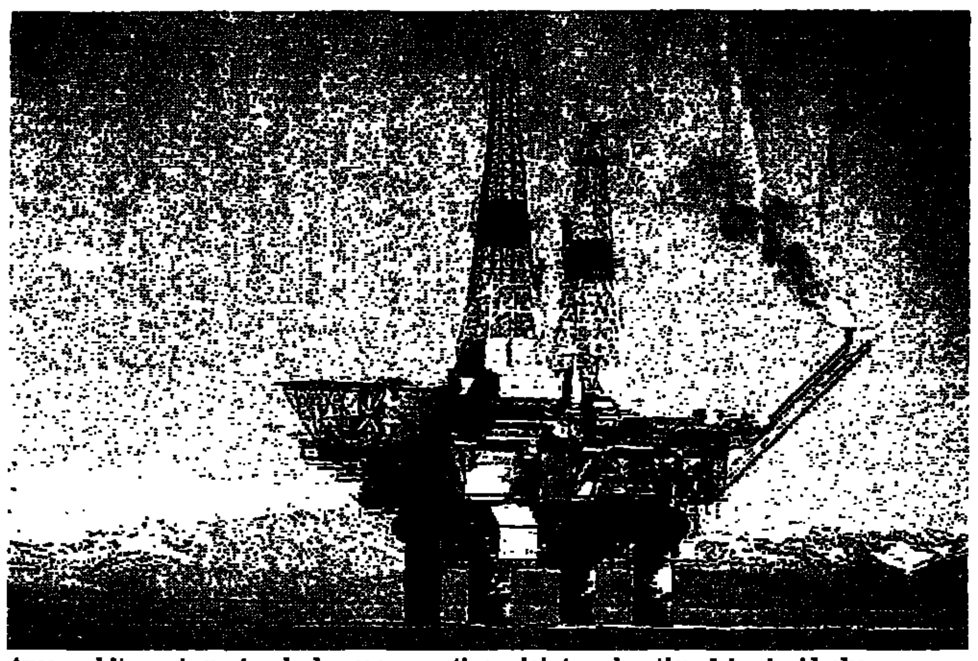
The aim is to stem the decline by 1999 and maintain production and revenues at the levels necessary to see its overseas ventures to fruition.

Arco's assiduous attempts to make the most of its US resources, including drilling satellite wells around the big fields, have been more fruitful than most. Until this year production was held stable, even though total output from Prudhoe Bay has been falling more than 10 per cent a year for a decade.

The company recently announced a plan to inject solvents into the oil-holding rocks of one Alaskan field, for example, and increase production by 10 per cent.

It has also pioneered the use of electronic probes, developed in its home state's Silicon Valley, which allow areas of rock around existing deep wells to be minutely examined for nearby reserves.

Now, Anadarko, which has is already working virgin areas of the North Slope in harness with Arco, has signed a two-year alliance to apply its vaunted seismic exploration technologies in Cook Inlet, Alaska's oldest oil-producing region.



Arco and its partner, Anadarko, are mounting a joint exploration drive in Alaska

Although full financial details were not disclosed, the Texan group has accepted a payment-by-results agreement under which the California company will share any gains.

The deal marks a further contraction in Arco's "big strike" strategy which marked its early successes in Alaska. The Kuparuk field, discovered two years after the Prudhoe Bay find, had estimated reserves of 2.2bn barrels, but the last big discovery, Point McIntyre, opened in 1989, had only 350m barrels.

Although the Department of Energy estimates two-thirds of US oil reserves are still underground – with large volumes waiting to be discovered close to existing fields – the difficult part is to find and exploit them profitably.

As Arco has found, technology helps. But even the most brazen oil industry optimists rate the chances of another multi-billion-barrel discovery in Alaska at no more than 2 per cent.

At those odds, Arco's gambles in the company of Lukoil and Sonatrach seem less extravagant than the political risks might suggest.

Christopher Parkes

Onex to buy IBM computer parts unit

By Bernard Simon in Toronto

International Business Machines has agreed to sell Celestica, its Toronto-based computer parts business, to a consortium led by Onex, the Canadian investment holding group. The deal is valued at about C$750m (US$550m).

Celestica, with 1,000 employees and annual revenues of about C$3bn, produces computer memory devices and power systems. Most of its sales are to IBM, but it also manufactures under contract to other computer groups.

The company was established in 1994 as an independent business unit of IBM.

Commenting on the sale, IBM Canada said Celestica had reached a stage where independent ownership was the next logical step.

Onex, whose interests range from international airline catering to automotive parts and parking garages, said yesterday it planned to expand Celestica rapidly "so it will be better able to serve IBM and its other customers on a global scale". However, Onex plans to lower Celestica's dependence on orders from IBM.

Onex said it would invest at least C$100m in Celestica, making it the biggest shareholder with voting control.

Other shareholders will include unidentified Canadian financial institutions and Celestica's management.

Onex is controlled by Mr Gerald Schwartz, a financier who is also a prominent fund-raiser for Canada's ruling Liberal party.

Bank of Nova Scotia will provide debt financing for the purchase as well as Celestica's future growth. Onex said it expected the purchase to be completed within 60 days.

AMERICAS NEWS DIGEST

Coca-Cola shares slip on warning

Shares in Coca-Cola, the US soft drinks group, fell $1⅛ to $49⅜ in early trading yesterday after the company said it would take a series of special charges against third-quarter profits, almost offsetting some previously-announced unusual gains. The decline came in spite of the company's statement that it expected to meet its goal of 7-8 per cent growth in worldwide volume this year, with earnings per share growth in the upper teens to 20 per cent range.

Less than two weeks ago, Coca-Cola stock slipped from recent highs after the company warned that global volume would grow at a slower than expected 6-7 per cent in the third quarter. It subsequently said it would record a $320m gain after tax because of a favourable tax settlement with the US internal revenue service, and a further $200m after tax in connection with transactions by its bottlers.

Yesterday Coca-Cola said it had decided to take advantage of the unusual gains by strengthening its global operations with a series of measures that would cost $420m-$450m after tax. These would cover a one-time reduction in concentrate inventories at its bottlers, costing $180m-$200m; a $60m provision for costs incurred in implementing an information technology upgrade called Project Infinity; and provisions for previously announced structural changes at Coca-Cola Foods, costing $180m-$200m.

Richard Tomkins, New York

Kiwi files for Chapter 11

Kiwi International Air Lines, one of the more prominent of the low-cost carriers to have appeared in the US over the past few years, has filed for Chapter 11 bankruptcy protection after running out of cash. It blamed an accumulation of debt through the airline's first three years of operation and the crash of a ValuJet Airlines aircraft in the Florida Everglades in May, which shook confidence in low-cost airlines.

Kiwi started operating as an employee-owned airline in September 1992, but was undercapitalised and riven by disputes between its founders. This summer, Kiwi's troubles worsened when it was forced to ground four of its 15 Boeing 727 aircraft after a Federal Aviation Administration inspection found shortcomings in its pilot training and record-keeping procedures.

Late on Monday, Kiwi said it planned to keep operating on a reduced basis during its bankruptcy with the aim of emerging as a stronger company. The company said it was in the process of securing at least $5m in debtor-in-possession financing in an effort to reorganise.

Richard Tomkins

Ivax in $20m cost-saving plan

Ivax, the US pharmaceuticals group, expects to report a third-quarter loss of about $35m before taking a $13m restructuring charge into account. The company said the restructuring of its US generic pharmaceutical business included job cuts, facility consolidations, and other cost-saving measures. It will reduce costs by about $20m.

In addition to the restructuring charge, Ivax said high inventory levels and declining prices for generic drug products would influence its third-quarter results, while a customer owing the company about $16m filed a Chapter 11 bankruptcy petition during the third quarter.

Existing reserves of about $6m will be increased by about $7m. Ivax said it expected to see "substantial improvement" in its consolidated operating results for the fourth quarter.

AP-DJ, Miami

Pfizer to merge operations

Pfizer, the US pharmaceuticals group, is merging its US and overseas operations to form Pfizer Pharmaceuticals Group, which "will be managed as a single global business", said the company. The new organisation will be headed by Mr Henry McKinnell, executive vice-president of Pfizer Inc, the parent company.

Mr Robert Neimeth, currently president of the International Pharmaceuticals group, which runs the non-US business, retires at the end of the year.

Daniel Green

Toy store revamp hits profits at Coles Myer

By Nikki Tait in Sydney

Coles Myer, Australia's biggest retailer and the focus of an institutional battle over corporate governance standards last year, yesterday announced a 33.8 per cent fall in after-tax profits, from A$423.4m to A$280.4m (US$221.9m), in the year to July 28.

The sharp fall came after net extraordinary losses of A$31.5m, wider than last time's A$12.2m. This largely reflected a A$43.4m charge for restructuring the lossmaking World 4 Kids toy chain, which was set up to meet the entry of Toys 'R Us, the US retailer, into Australia three years ago.

However, Coles insisted yesterday it was still committed to the Australian toy and leisure market and – contrary to some speculation – would retain the W4K brand. This would mean keeping some stand-alone W4K stores, although the brand would also operate out of Coles' Kmart stores.

However, an unspecified number of outlets within the 23-store W4K chain would be changed to house other Coles' businesses, such as Officeworks, the office equipment retail chain.

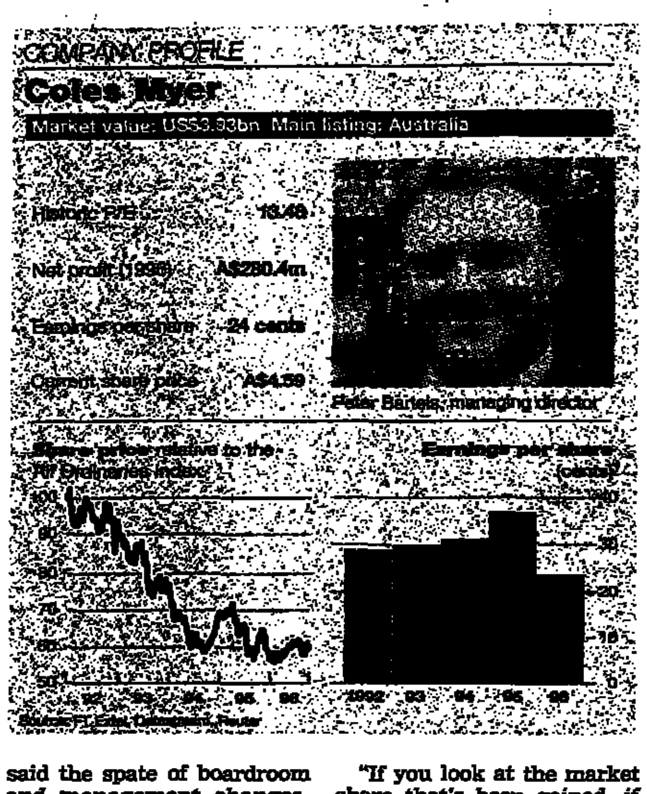
Coles' profits drop came in spite of an 8.2 per cent increase in sales, to A$18.2bn. At the pre-interest level, profits from the retail operations alone were almost 15 per cent lower, at A$534.6m down from A$627.8m, with good results from the supermarket and liquor divisions offset by sharply lower profits from Kmart and Myer Grace Bros, the up-market department store chain.

In the food and liquor businesses, trading profits rose 13.5 per cent to A$287.6m. By contrast, weak apparel sales and heavy discounting pushed Kmart's profits down 59.5 per cent to A$51.8m. Similar factors drove Myer Grace Bros' trading profit 26.8 per cent lower to A$90.2m. The W4K loss stood at A$35.8m, against a A$33m deficit last time, with the chain's sales standing at A$97m.

A downturn in earnings from the property division – which made A$113.7m compared with A$133.7m – also contributed to the poor overall result, while "unallocated" costs rose from A$31.6m to A$69.9m.

However, Mr Peter Bartels, chief executive, defended the results, saying the Australian market had been "very difficult" for retailers. He said the spate of boardroom and management changes, which flowed from the corporate governance furore, had not had a big impact on Coles' performance.

"If you look at the market share that's been gained, if you look at the way the businesses are operating, I think there's been very little distraction," he said.



New Oji and Honshu Paper in merger

By Michiyo Nakamoto in Tokyo

Japan's largest paper company, and the third-largest in the world in sales terms, was created yesterday with the merger of New Oji Paper and Honshu Paper.

The new company, Oji Paper, is expected to have consolidated sales of about Y1,300bn ($11.7bn), a share of about 20 per cent of the domestic paper market and 13 per cent in paperboard.

Mr Masahiko Okuni, president of Oji Paper, said the merger was aimed at surviving the "borderless age" of the paper industry.

The Japanese paper market, which is the third-largest in the world after the US and Europe, is dominated by domestic manufacturers which are generally not cost-competitive in international markets.

The merger is the latest step in the reorganisation of the Japanese paper and pulp industry. Japan's paper companies, which were broken up after the second world war, have joined hands again over the past several years, spurred by the need to increase efficiency and survive growing international competition.

New Oji Paper was formed by the 1993 merger of Oji Paper and Kanzaki Paper Manufacturing. Sanyo Kokusaku Pulp and Jujo Paper also merged in 1993 into Nippon Paper Industries.

Concerns about the emergence of monopolistic groups, however, have long prevented the Japan Fair Trade Commission from approving mergers in the industry.

Paper companies have been required to meet conditions, such as the sale of shares in distribution companies and the lowering of market share in particular sectors, before a merger.

The JFTC has been particularly sensitive to criticism from the US that Japanese paper companies' shareholdings in wholesalers have kept the market closed to foreigners.

New Oji and Honshu, which have complementary product areas, have agreed measures with the JFTC designed to minimise the risk of the new company monopolising the market. These include a reduction in their holdings in wholesalers and a shift in production of some lines of paper.

Indian Oil expects further sharp increase

By Lisa Vaughan in New Delhi

Indian Oil Corporation, India's largest state-owned oil company, yesterday predicted it would increase profits sharply in the current financial year, after announcing a 23 per cent jump in after-tax profits to Rs12.5bn ($357m) for the year ended March 31.

Mr S. C. Mathur, finance director, said: "We are doing very well. We expect profits to be Rs18bn after tax in the current year."

Higher earnings in Indian Oil's core areas of refining, pipelines and product sales were responsible for the increase in profits, said Mr R. K. Narang, chairman.

Pre-tax profits rose 29 per cent to Rs17.6m.

In 1995 Indian Oil became first state-owned enterprise to offer shares to the public. Privatisation is a central plank in the Indian government's economic policy. The only Indian company in Fortune Magazine's "Global 500" ranking of the world's largest companies, Indian Oil owns and operates six of the country's 14 refineries, and has a 40 per cent share of the refining market. It satisfies 55 per cent of India's demand for petroleum products and is the importing agency for crude-oil and petroleum products

Mr Avadhoot Sabnis, a stockbroker with ING Barings in Bombay, said the company's anticipated profits for the current year were well above expectations and that this would position the company well for privatisation. He said 1997–98 would be a "phenomenal" year for the company.

Indian Oil earned Rs18.9bn in exports last year, mainly in aviation fuel and marine lubricants. Its refineries processed 25.6m tonnes of crude oil in 1995/96, up from 25.2m, achieving 105 per cent utilisation of capacity. Product sales climbed 11.5 per cent to Rs438bn.

The company was awarded a contract to operate an oil terminal in Zambia and has earmarked investments of more than Rs250bn, including a new refinery on India's east coast with Kuwait Petroleum Corporation.

It also plans to invest Rs38bn in expanding three refineries.

Ratings pressure on Sampoerna group debt

By Manuela Saragosa in Jakarta

Hanjaya Mandala Sampoerna, the Indonesian clove cigarette manufacturer, has been placed on CreditWatch by Standard & Poor's, while Moody's Investors Service has changed the company's debt rating outlook to negative from stable.

The rating actions follow HM Sampoerna's acquisition of 2.85 per cent of Astra International, the cars-to-plantations conglomerate. That acquisition followed the recent purchase of a 9.81 per cent stake by HM Sampoerna's president director and controlling shareholder, Mr Putera Sampoerna.

The acquisitions have raised questions about Mr Sampoerna's motives and the future of Astra, which faces intense competition from Indonesia's so-called "national" car.

President Suharto's youngest son, Mr Hutomo Mandala Putra, has been awarded tax and tariff breaks not available to other car manufacturers to produce the car in co-operation with South Korea's Kia Motors. Astra blamed the national car plan for its flat first-half net profits, announced in August.

Standard & Poor's said the objective of HM Sampoerna's investment in Astra was "unclear", and "outside the expected expansion parameters" of the company. It said this "could lead to a rating downgrade" of the company's debt. In a similar vein, Moody's said the acquisitions could create "additional business risk" for HM Sampoerna.

It is hoped the change in ratings outlook will put pressure on Mr Sampoerna to explain the share acquisitions, which have gripped the market in the past week. Analysts say it is unclear whether Mr Sampoerna, who until recently had no interests in the automotive sector, is acting as a frontman for the entry of politically powerful shareholders.

ASIA-PACIFIC NEWS DIGEST

Ansett chief sees return to profit

Mr Ken Cowley, executive chairman of Ansett Australia, said yesterday he was "optimistic" that the lossmaking Australian carrier could move back into profit in the current 12 months – with the arrival of Air New Zealand as co-owner "improving the opportunities".

However, both Mr Cowley and Mr Jim McCrea, Air New Zealand's chief executive, yesterday played down any likelihood of Ansett Australia being floated as a separate, listed entity, as had been mooted. "There are no plans at the moment," said the Ansett chairman, who will step down in January. The comments came as Air New Zealand formally signed a commercial agreement with Ansett Australia, covering code-sharing and other operational matters. This allows the new ownership structure to come into force. *Nikki Tait, Sydney*

NZ bank down 30% halfway

The National Bank of New Zealand, a wholly-owned subsidiary of Lloyds-TSB of the UK, yesterday reported a 30 per cent fall in first-half profit, to NZ$41m (US$28.7m). The lower profit was foreshadowed last month by Sir John Anderson, chief executive, who warned that staff cuts were imminent as the bank faced reduced interest margins and rising costs. *Terry Hall, Wellington*

HSBC looks for growth in NZ

Hongkong and Shanghai Banking Corp is about to embark on a more aggressive bid to build its New Zealand business, focusing on Wellington. It said yesterday it hoped to maintain its performance in the country at present levels after a 306 per cent surge in operating profit to NZ$7.04m for the six months to June. *Terry Hall*

No surprise at Sino Land

Sino Land, one of Hong Kong's biggest property developers, yesterday reported a 60 per cent drop in net earnings for the year to June 30, from HK$2.87bn to HK$1.15bn (US$148.7m), broadly in line with market expectations. *Louise Lucas, Hong Kong*

Jardine Fleming resignation

A director of Jardine Fleming Investment Management, the fund management arm of the Hong Kong merchant bank, has resigned. Jardine Fleming said Mr Thomas Chan, head of operations and services at JFIM, was leaving for personal reasons, and that his departure was not connected to the recent trading scandal at the company. *John Ridding, Hong Kong*

Westpac buys back Ampac

Westpac, one of Australia's biggest commercial banks, has paid a "provisional" A$342m (US$270.6m) to buy the Ampac Life business from the AMP Society, Australia's largest life insurer. The two companies announced in July they were calling off a strategic alliance set up five years ago, and that as a result Westpac would exercise an option to buy back Ampac Life. *Nikki Tait*

WMC sells oilfield stakes

WMC, the Australian mining group, said yesterday it would sell its Thevenard oil assets – including 10 per cent stakes in Roller/Skate and Saladin oilfields off the Western Australian coast – to a subsidiary of Royal Dutch/Shell. *Nikki Tait*

House of Fraser makes provision for revamp

By Chris Brown-Humes

House of Fraser, the department store group, is heading for a full-year loss after making provisions yesterday of up to £50m ($78m) to cover closures, job losses and stock write-downs.

It said yesterday it was likely to close between five and 10 of its 51 stores as part of a recovery programme.

It also promised an overhaul of merchandising, lower head-costs and refurbishment costs for the stores it plans to keep.

Mr Nick Bubb, analyst at MeesPierson, the Amsterdam-based merchant bank, said: "There's a lot of hope deferred and a lot of scepticism based on their recent underperformance."

The strategic review was unveiled by Mr John Coleman, brought in as chief executive in May against a background of falling profits, lost market share, over-reliance on concessions, and high costs.

The group's biggest problem has been the poor performance of its own-label women's wear ranges.

In the first half, own-bought women's wear sales fell 14 per cent, while sales from in-store concessions rose 29 per cent. Mr Coleman blamed poor management and indistinct buying briefs. This was part of a broader problem – the group "didn't really know which customers it was targeting".

It plans a tighter focus, aimed particularly at above average spenders including career women, young fashion lovers and more mature women. In men's wear, it is targeting career men and smart casual "label lovers". The intention is to lift the proportion of own-label sales.

"We are aiming to be more upmarket than Debenhams and more fashion-orientated than John Lewis," Mr Coleman said.

House of Fraser said the impact of the overhaul would start next year before taking full effect in 1998. Estimated restructuring costs of £40m-£50m represented a worst-case scenario.

Analysts expect a large chunk of the provisions to be used to deal with the problem of unwanted stock. They predict profits of £14m-£17m this year – before exceptionals – after £14.3m last year.

Improved margins for Boosey

By David Blackwell

Boosey & Hawkes, the musical instrument and publishing group that acquired Californian reed maker Rico International in August, lifted interim profits by almost 21 per cent.

The shares rose 30p to 792½p yesterday as the group increased the dividend by 25 per cent and reported pre-tax profits of £2.05m ($3.2m) for the six months to June 30. Sales edged up from £40.5m to £42.2m.

Mr Richard Holland, chief executive, said margins had improved, particularly in the instrument manufacturing side. However, he was most excited about the £17.6m purchase of Rico, which had taken the group into musical accessories.

"It is a significant acquisition and we feel very positive about it. We have suddenly become the world leader in the manufacture of reeds," he said.

Rico is expected to enhance earnings in the second half with its four-month contribution. It has just over half of the world market, making 26m reeds a year.

"It is a simple business, but the barriers to entry are high," said Mr Holland. The acquisition had also taken Boosey into the plantation business. He saw potential synergies, mainly on the distribution side.

Following August's US court ruling in its favour over the copyright on Stravinsky's *Rite of Spring*, used in Disney's video of *Fantasia*, the group is pursuing claims against Disney in the rest of the world. It would not quantify the amount it expects to win.

Imps rises strongly on first day

By Ross Tieman

Shares in Imperial Tobacco Group performed better than expected on their first day of trading yesterday, closing up 18½p at 393½p.

At the closing price, some 10p ahead of brokers' estimates, the UK cigarettes, cigars and tobacco company demerged from the Hanson conglomerate is capitalised at £2.046bn ($3.18bn).

Mr Gareth Davis, chief executive, was delighted. "I think the road-shows have got the message across that it is a very strong company and really we couldn't have asked for a steadier start than this," he said.

Some 14m Imperial shares changed hands as fund managers, attracted by the company's strong cash flow, sought to build their holdings. Demand for the company was reinforced because it has replaced Southern Electric in the FTSE 100 index, making it an essential holding for funds that seek to track the index.

The demerger of Imperial marks a sea-change in strategy for Hanson. Over three decades it became a conglomerate with annual sales of £11bn through a string of hostile takeovers.

The strong start came despite the announcement on Friday that lawyers have agreed to represent UK cancer sufferers pursuing claims against Imperial on a no-win, no-fee basis.

A new start for Millennium

UK investors may sell their holdings, writes Ross Tieman

A complex swirl of transatlantic share trading is expected to start today when Millennium Chemicals is listed on the New York Stock Exchange.

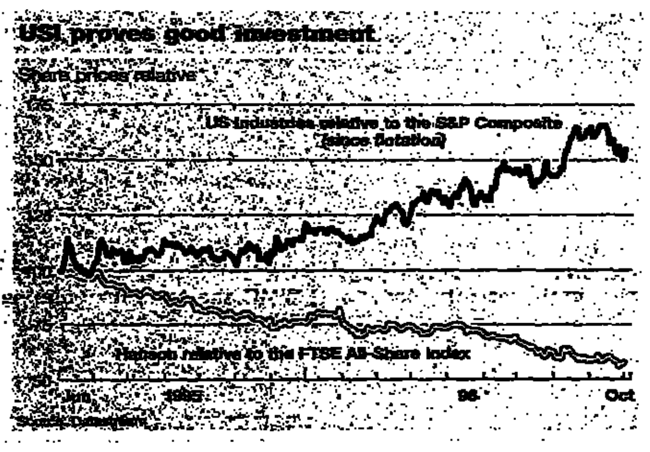
Shares in the former Hanson chemicals business, which is being demerged, are expected to be hit by a wave of selling by UK investors. Many UK funds cannot hold shares in companies, such as Millennium, which are quoted only on foreign exchanges. Investors who hold Hanson shares through UK Personal Equity Plans will also be obliged to sell the shares they receive to stay within UK tax rules.

"I think the British are going to be rushing for the door to sell Millennium," said an analyst, voicing the consensus. "The UK fund manager does not want to know about Millennium Chemicals."

Concern about the likely behaviour of Millennium's UK shareholders, who will hold 70 per cent of the equity at the outset, is so great that the company has been endowed with "poison pill" defences to deter would-be bidders.

Predictions are largely based upon what happened when Hanson demerged its portfolio of smaller US manufacturing businesses, US Industries (USI), on June 1 1995.

When that happened, 76 per cent of USI's 53.7m shares were held by UK investors. Within six weeks, 40.5m shares had been traded and, by November, just 12 per cent of USI shares were left in UK hands.



The sell-off, which may have been exacerbated by concern about USI's heavy debt burden, depressed the share price. Having opened just over $14, the shares reached a low of $12¾ within a few weeks.

But many funds which sold early did their investors a disservice. Owing partly to the speedy implementation of a disposal programme that reduced borrowings, shares in USI have since performed well, touching a high of $27¼ last month.

The performance of USI may influence the way funds restructure their holdings in Millennium. Mr Steven Daniels, investment director at the Liverpool Victoria Friendly Society, said: "The easy thing to do is just to sell, but that is not necessarily the best strategy.

"With US Industries we did not sell out immediately. We kept our shares, and sold part of the holding later, as they rose towards $23. I wish some of our other investments had done as well".

The pace of the sell-off may also be slowed by a substantial rise in the proportion of Hanson shares held by US investors, from around 23 per cent when plans for the demergers were announced in January, to more than 30 per cent. Many UK institutions, disenchanted by the performance of Hanson shares, have already cut holdings.

Hanson will follow up the Imps and Millennium demergers with that of The Energy Group, embracing UK electricity distributor Eastern and US coalminer Peabody. That will leave Hanson as a much-shrunken building products company.

Despite the decline in Hanson's share price, many investors have stuck with it in the hope that the demerged groups, in which they will automatically get stakes, attract takeover bids.

"We do believe that the group has been at a significant discount and upon break-up it will have a higher value," said one fund manager.

Directors of the successor companies – which Lord Hanson, the Hanson chairman, is apt to call his "grandchildren" – are happy to see a consolidation of their shareholder base through sales by small investors.

Hanson made strenuous efforts to encourage individual investors, and has an estimated 600,000 shareholders, many of whom hold shares through UK Peps. However, one director estimated the cost of servicing these investors at £7 a head, or more than £4m a year.

Consolidation of the shareholdings will ease that managerial headache. But executives will face a much bigger one if the shares wind up in the hands of predators, Millennium's poison pill notwithstanding.

Reshuffle at Rothschild

By John Gapper, Banking Editor

The Rothschild merchant banking group is trying to co-ordinate corporate finance activities around the world in a reshuffle that emphasises the growing role of Baron David de Rothschild within the family-controlled group.

Baron David is to become chairman of a new company, called NM Rothschild Corporate Finance, which will comprise London corporate finance activities.

He will also chair a committee co-ordinating global corporate finance operations.

Baron David, who chairs the French bank Rothschild et Cie, Banque and is also the deputy chairman of NM Rothschild & Co in London, is regarded as the most likely successor to Sir Evelyn de Rothschild as chairman of NM Rothschild.

Baron David, 53, re-built the French arm of the Rothschild empire after the original bank was nationalised. Unlike NM Rothschild, the French operation is not owned by Rothschild Continuation Holdings, a Swiss holding company.

The investment banking committee marks an attempt to co-ordinate more closely the efforts of Rothschild to win international business.

The move is one of several aimed at combining the disparate Rothschild operations more effectively. In May, the French and British banks announced an alliance with ABN Amro, the Dutch bank, to distribute international share issues.

In addition to these moves, there will also be a reshuffle of senior management in the London corporate finance operations.

Investors move into Limelight

By Christopher Price

A game reserve in the Kalahari and Manchester City Football Club could be among the diverse beneficiaries of the float, announced yesterday, of the Limelight furniture group, whose former chairman will see his stake valued at about £85m ($133m).

Mr Stephen Boler, who will remain a non-executive director, owns 49 per cent of the company he founded in the early 1980s, as well as his game park and stake in the football club.

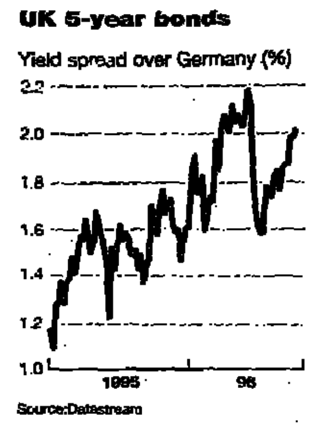
Limelight, which includes Moben fitted kitchens, is hoping for a total valuation of more than £170m. Mr Boler is likely to reduce his stake to about 25 per cent, taking some £40m in cash from the issue to invest in his outside interests.

More than 50 per cent of the shares are being floated, although no new money is being raised.

Shareholders include Mr Michael Ashcroft's ADT Group, believed to be selling its 16 per cent stake. Schroders Investments, which bought its 27 per cent stake in a deal valuing the company at £130m two years ago, will sell an undetermined amount of shares.

LEX COMMENT

Labour party



For investors, arguably the most significant fact about Mr Tony Blair is his age. He is 43. He is also ambitious. So if he gets into government, Mr Blair surely hopes to survive to handle the consequences of his own spending and monetary policy decisions. To this extent, he would be under tougher disciplines than currently apply to Mr John Major, whose apparently low chance of re-election gives him a strong incentive to gamble – just as he did before the last election when spending was let rip. Everything Mr Blair is saying supports this view. This is not just a matter of waffle about macroeconomic stability: Mr Blair's refusal to allow spokesmen anything but the most tightly defined spending commitments deserves credibility.

And yet – for all yesterday's high-flown pledges, it remains deeply unclear how Mr Blair would set about delivering a fairer brave new world. He has been so busy ruling things out that, on the big issues, he is still left with little other than good intentions.

The danger is obvious: that Mr Blair, not least thanks to the fiscal and potentially monetary mess left behind by the present government, would fail to deliver anything like the expectations a new Labour government would excite. After, say, a year this would leave that government dangerously prey either to the failed remedies of the past or to novel but expensive gimmicks. This, not Mr Blair's true intentions, should be investors' real worry.

WBB slips as weather takes toll

By John Hamilton

Watts Blake Bearne, the world's largest supplier of ball clay, has joined the list of companies blaming bad weather in Europe last winter for a fall in profits.

Mr Graham Lawson, chief executive, said the group's first half pre-tax outcome fell to £5.5m ($8.6m), against £6.1m, because of the lack of activity in the German construction industry and destocking by German and Italian customers.

Analysts said other pressures on profits were a highly competitive US market; the strengthing of the lira, which affected profits of the German division; and the shrinking of the UK market.

Profits from WBB's nascent greenfield businesses in the Ukraine and Indonesia are expected to start in the second half.

Possible merger for GWR

By Patrick Harverson

Great Western Resources, the US-based oil and gas company with a UK listing, is in discussions that could lead to a merger with another US energy group.

The company explained yesterday that it had recently received a "tentative" takeover proposal from an unnamed suitor, but had rejected the approach as not in the best interests of shareholders.

However, GWR said it was now reviewing "strategic alternatives which might be available to enhance shareholder value." A merger is top of the list and the group has recently held talks with a company it already knows well in the industry.

GWR's main asset is a joint venture exploration programme in Peru with Enterprise Oil, the UK group.

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Ash & Lacy	6 mths to June 28	74	(34.5)	4.8	(2.97)	8.89	(7.84)	2.7	Nov 16	2.6	-	6.7
Boosey & Hawkes	6 mths to June 30	42.2	(40.5)	2.05	(1.9)	6.36	(5.1)	1.91	Nov 8	1.53	-	7
Cardinal Business	6 mths to June 30	17.65	(16.13)	1.12	(0.747)	4.27L	(2.85L)	-	-	-	-	-
Celtic Resources §	6 mths to June 30	-	(-)	0.046	(0.001)	0.47	(-)	-	-	-	-	-
Chartwell Int'l Φ	11 mths to June 30	5.15	(-)	1.47L♣	(-)	-	(-)	-	-	-	-	-
Coms Coal	Yr to Mar 31	1.72	(-)	1.08L	(0.244L)	2.6L‡	(0.4L)	-	-	-	-	-
Culver	6 mths to June 30	36.5	(27.9)	0.062	(0.028)	1.72†	(0.73)	3.25	Nov 14	3.25	-	7.5
Ennemix	6 mths to June 30	7.27	(7.5)	0.767L♣	(0.223L)	4.27L	(0.62L)	-	-	-	-	nil
Frogmore Estates	Yr to June 30	147.2	(72.4)	15.5♣	(14.9)	18	(22.4)	14.9	Nov 25	14	19	18
Hampden	6 mths to June 30☆	21.4	(17.3)	0.717	(0.544)	3	(2.43)	0.6	Nov 22	0.5	-	2
Hat Pin Φ	6 mths to June 30	1.06	(0.761)	0.216	(0.203)	4.59	(4.23)	1	Dec 2	-	-	-
House of Fraser	6 mths to July 27	334.7	(322.6)	13.8L♣	(4.3L)	4.3L	(1.3L)	1.7	Dec 2	1.7	-	5.5
Lambert Smith	6 mths to July 31	13.6	(4.8)	0.205♣	(0.915L♣)	1.4	(53.3L)	nil	-	nil	-	nil
Lloyd Thompson	Yr to June 30	48.4	(45)	5.34♣	(20.4)	0.07†	(16.76)	7	Nov 15	6.25	10	9
Malden	6 mths to June 30	28.8	(14.5)	3.18	(1.57)	7.7†	(5.5)	-	-	-	-	-
MSB Intl	6 mths to July 31	30	(15.7)	2.17♣	(1.37)	7	(-)	2	Oct 31	-	-	-
QS	6 mths to July 27	26	(24.3)	1.5L	(0.743L)	2.54L	(1.26L)	nil	-	1.56	-	1.56
OSP	6 mths to June 30	11.8	(10.1)	1.12L	(0.805)	8.6L	(9.2)	nil	-	1.5	-	3
Watts Blake Bearne	6 mths to June 30	53.3	(54)	5.47	(6.11)	15.7	(17.7)	4.4	Nov 22	4.4	-	15.2

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Henderson Amer	6 mths to Aug 31	91.57	(84.44)	0.312	(0.371)	4.16	(4.95)	1.8	Nov 6	1.8	-	7.6
New Guernsey	6 mths to June 30	184	(128)	8.43	(6.23)	0.4	(0.3)	-	-	-	-	1.25☆

Earnings shown basic. Dividends shown net except ‡gross. Figures in brackets are for corresponding period. ♣After exceptional charge. §Irish currency. †On increased capital. ‡On reduced capital. ☆Comparatives for 24 weeks. ΦAim stock.

Rally in US Treasuries lifts Europe

GOVERNMENT BONDS

By Lisa Bransten in New York and Samer Iskandar in London

Most European bond markets closed higher yesterday, helped by a rallying US Treasury market. France and Germany, however, showed the weakest performances while yields in the peripheral markets continued to converge towards those of bunds.

Although 10-year bunds closed about 0.35 higher, traders said the rise was capped by the release of stronger than expected industrial production data for August, showing a 1.7 per cent rise on the July figure.

■ US Treasury prices gained ground after a national report on manufacturing activity showed that wholesale prices were not rising as quickly as some investors had feared.

Bonds had slipped on Monday after a report from the Chicago Association of Purchasing Management showed a jump in the prices paid component for September. That report is generally taken as an indicator of the national report, but yesterday's report from the National Association of Purchasing Management did not show nearly as large a jump in the prices index.

The prices-paid index of the NAPM report moved to 51.2 from 47.4 in August, but it was not as strong as the 59.3 figure reported by the Chicago association.

Signs that manufacturing activity may be slowing gave additional support to the market. The NAPM's overall index of manufacturing activity slipped from 52.6 in August to 51.7 in September.

By midday, the benchmark 30-year Treasury had gained [illegible] to 98[illegible], yielding 6.883 per cent, while the two-year note added [illegible] to 99[illegible], yielding 6.050 per cent. The December 30-year bond future rose by [illegible] to 109[illegible].

Ms Marilyn Schaja, of Donaldson, Lufkin & Jenrette, said that although the increase in the price index was disturbing, "based on recent commodity price behaviour, we would expect a decline in this series in upcoming months and the index rose because fewer manufacturers cited lower prices, not because more manufacturers reported higher prices".

■ Italian bonds recovered from early losses to close higher, their 10-year yield spread over bunds 4 basis points tighter at 247 points.

Liffe's December BTP future rose 0.46 to settle at 121.95, then rose further in after-hours trading.

Traders ignored the squabbling between Italian and French politicians over the likelihood that Italy would be a founding member of European monetary union.

The market chose instead to take its cue from rising US Treasuries and a slightly stronger lira against the D-Mark.

■ UK and Irish gilts showed healthy progress. With rises of between ½ and ¾, their yield spreads over bunds continued to tighten. Liffe's December long gilt future closed at 109⅛.

The Irish 10-year spread over bunds stood at 85 basis points, down from 125 points a month ago and around 160 points last spring.

"Irish gilts could now converge even more rapidly," said Mr Dan McLaughlin, at Riada Stockbrokers in Dublin. He predicts a narrowing to around 50 basis points over the next few months, a level not seen since early 1994.

One-month euromark contract from DTB

By Samer Iskandar

The Deutsche Terminbörse, the Frankfurt-based derivatives exchange, yesterday announced the launch of a new short-term money market futures contract, signalling an intensification of competition between European futures exchanges ahead of monetary union.

The DTB will start trading a one-month euromark contract on November 12, just days before the launch of a similar product announced last month by the London International Financial Futures and Options Exchange.

The German exchange also said it would scrap its existing three-month Fibor future and replace it with a new three-month euromark contract. Liffe currently dominates trading in D-Mark denominated interest rate contracts, with daily volume in its three-month euromark contract averaging 130,000 lots.

"Most of the cash market is based on the Libor as a reference and not on the Fibor", the DTB said. It concedes that it will be difficult to draw business away from London in this sector of the futures market, but said that "a market share in double digits would be sufficient to make the [three-month euromark] contract liquid".

The German exchange is also confident of its chances of winning a greater share of business in the new one-month contract.

It argues that screen-based trading will prove an advantage, claiming that trading costs on Liffe's open outcry floor are "up to three to five times higher than on the DTB".

NatWest wins mandate for Humber Power

By Conner Middelmann

National Westminster Bank's plan, announced last week, to securitise $5bn of corporate loans it currently has on its books looks as though it is already beginning to pay off.

Surprising most market observers, the UK bank managed to fight off tough competition from ABN Amro, CIBC, Deutsche Morgan Grenfell, HSBC and UBS to win a highly coveted mandate to arrange a £796m financing and refinancing facility for Humber Power.

The borrower had contacted each of the above banks and asked them to bid for half the loan with a view to a joint mandate, but NatWest bid for the entire transaction and was awarded the sole mandate.

"There is a growing feeling that after the securitisation, NatWest will be able to bid for larger slices of deals," one banker said.

Under the securitisation – set to be one of the largest such offerings in the international capital markets – NatWest plans to sell off about 300 relatively low-margin corporate loans, freeing up lending capacity and credit lines and using its balance sheet more efficiently.

The Humber Power transaction is intended to refinance a £520m multi-tranche project-financing facility which was set up in December 1994 and arranged by NatWest and UBS.

The original facility was used to build a 750MW power station, and the £276m of extra cash provided by the new loan will be used to increase capacity to 1,200MW.

Terms of the new facility have not yet been released, but observers expect the pricing to be finer than on the original facility, whose tranches were priced at margins ranging between 62.5 basis points and 135 basis points over Libor.

Elsewhere, general syndication of a $200m syndicated loan for Israel, which was due to take place this week, has been put on hold in light of the latest bout of political violence to hit the country.

While the arrangers of the facility are continuing to assemble a group of co-arrangers – four or five are thought to have been put in place so far – further syndication has been postponed until the political situation stabilises, NatWest Markets, one of the arrangers, said.

Meanwhile, other emerging market borrowers have continued to provide the market's main source of activity.

A five-year government-guaranteed $100m facility for Transnet, the South African conglomerate, was launched into general syndication last Friday after a group of 14 arrangers was formed. Credit Suisse and Sumitomo are arranging the deal.

The loan is priced at an interest margin of 55 basis points over Libor, 5 basis points tighter than a recent transaction for South Africa's Telkom.

In central Europe, a $50m facility for Hungary's Postbank and Savings Corporation, a first-time borrower, is seeing strong demand, according to arranger Sanwa Bank. The five-year facility pays 60 basis points over Libor, with a top participation fee of 35 basis points for lead managers providing $5m.

Argentina taps 10-year dollar sector for $750m

INTERNATIONAL BONDS

By Conner Middelmann

The Republic of Argentina made its long-awaited foray into the 10-year dollar sector yesterday with the successful placement of $750m of global bonds.

The offer saw extremely strong demand, especially from US investors, and was at least twice subscribed, said a syndicate official at Salomon Brothers, joint lead with Goldman Sachs.

About 70 per cent of the issue went to US mutual funds and insurance companies, he said, with the rest placed predominantly in Europe.

"All emerging markets have a very strong bid to them these days and there hasn't been much supply, especially in the 10-year sector," he said. "As a result, there's a lot of pent-up demand, especially from new, mainstream investors", who are increasingly buying emerging market paper.

The bonds are to be priced today, probably at the lower end of the indicated range of 445 to 450 basis points over Treasuries.

Also in dollars, SmithKline Beecham Capital, a rare borrower, launched a $200m five-year offering priced to yield 26.5 basis points over Treasuries.

While lead Citibank reported good demand from European institutional investors, dealers at other houses said the deal was too aggressively priced.

"At 30 over, you'd start to get people looking at it – the low 30s would have been a lot preferable than the mid-20s," said one trader.

Indeed, the spread widened to 29 bid in the course of the session.

A $250m issue of three-year paper for Asset Backed Capital, an offshore investment company, was more warmly received, its 16 basis point spread seen to represent good value for a triple-A-rated issuer. The deal was led by CS First Boston.

In the D-Mark sector, Deutsche Ausgleichsbank issued DM300m of eight-year bonds yielding 8 basis points over the Treuhand benchmark bond due 2004. Yielding less than domestic bonds, the issue saw little German demand, but lead Dresdner-KB reported good interest from international accounts.

In the Dutch guilder sector, the European Bank for Reconstruction and Development issued Fl 150m of seven-year equity-linked zero-coupon bonds in a novel structure. The redemption price of the bonds is linked to the performance of the Dutch Publishers' Index, which is made up of shares in VNU, Wolters Kluwer, PolyGram and Elsevier.

"This innovative transaction, which responds to specific demand in the Dutch market, provides investors with protection from downswings in the stock market together with an increased potential from the investment," said Mr Bart le Blanc, vice-president, finance, at the EBRD.

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
■ US DOLLARS							
Republic of Argentina	750	(a)#	(a)R	Oct 2006	0.875R	(a)(7%-06)	Goldman/Salomon Bros
Asset Backed Capital	250	6.50	99.925R	Oct 1999	0.1875R	+16(6%-99)	CS First Boston
SmithKline Beecham Capital	200	6.75	99.637R	Oct 2001	0.275R	+26½(6%-01)	Citibank International
Santandar Fin Issuances‡	150	(b)	99.93R	Oct 2006	0.50R	-	Lehman Brothers Intl
■ D-MARKS							
Deutsche Ausgleichsbank	300	5.875	99.25R	Oct 2004	0.325R	+8(7½-04)	Dresdner KB
Argentina Inv'ment Bond(c,s)	150	13.00	98.00R	Apr 2005	0.50R	-	Merrill Lynch(Deutschland)
■ GUILDERS							
ING Bank(d)	500	6.25	98.54R	Feb 2006	0.425R	+50(6%-06)	ING Barings
Kredietbank Intl Finance(e)	250	6.75	99.50R	undated	0.75R	+80(i)	ABN Amro Hoare Govett
EBRD(f)§	150	zero	101.50	Nov 2003	undiscl	-	Rabo Securities
■ LUXEMBOURG FRANCS							
Cera Bank Luxembourg	2.5bn	(g)	102.30	Dec 2002	1.875	-	Cera Bank Luxembourg

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. §Convertible. ‡ Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) Priced today 445-450bp over Treasuries. b) 3-mth Libor +30bp. c) Amortises in six equal annual instalments from 7/4/00. d) Fungible with Fl 500m. Plus 253 days accrued. e) Callable on 30/10/06 and every 10 yrs at par. If not called coupon is reset at 250bp over the then 10-yr DSL. f) Redemption proceeds linked to index of 4 shares: VNU, Wolters Kluwer, PolyGram and Elsevier. g) 4% to 6/12/98, then 5% to 6/12/00 and 8% thereafter. i) Over interpolated yield. s) Short 1st coupon.

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

		Coupon	Red Date	Price	Day's change	Yield	Week ago	Month ago
Australia		6.750	11/06	92.9890	+0.400	7.77	7.91	7.91
Austria		6.250	05/06	101.0200	+0.370	6.00	6.12	6.31
Belgium		7.000	05/06	105.6500	+0.330	6.19	6.35	6.57
Canada *		7.000	12/06	99.3200	+0.310	7.09	7.32	7.29
Denmark		8.000	03/06	107.4800	+0.320	6.89	7.10	7.23
France	BTAN	5.500	10/01	101.5370	+0.220	5.15	5.29	5.51
	OAT	6.500	10/06	103.0200	+0.200	6.09	6.19	6.32
Germany Bund		6.250	04/06	101.3500	+0.340	6.05	6.16	6.30
Ireland		8.000	08/06	107.6900	+0.610	6.90	7.18	7.56
Italy		9.500	02/06	107.1300	+0.390	8.39†	8.82	9.33
Japan	No 140	6.600	06/01	120.9781	−0.010	1.77	1.76	2.08
	No 182	3.000	09/05	101.2502	−0.070	2.83	2.85	3.12
Netherlands		8.500	06/06	118.3400	+0.260	5.94	6.03	6.27
Portugal		9.500	02/06	110.6100	+0.400	7.85	8.08	8.68
Spain		8.800	04/06	105.8600	+0.390	7.88	8.09	8.79
Sweden		6.000	02/05	91.7540	+0.120	7.35	7.65	7.99
UK Gilts		8.000	12/00	103-30	+5/32	6.89	7.10	6.95
		7.500	12/06	99-11	+16/32	7.59	7.80	7.79
		9.000	10/08	109-25	+14/32	7.74	7.92	7.93
US Treasury *		7.000	07/06	102-24	+22/32	6.58	6.80	6.60
		6.750	08/26	98-10	+16/32	6.88	7.02	6.85
ECU (French Govt)		7.000	04/06	104.1900	+0.300	6.39	6.49	6.73

London closing, *New York mid-day. Yields: Local market standard.
† Gross (including withholding tax at 12.5 per cent payable by nonresidents)
Prices: US, UK in 32nds, others in decimal. Source: MMS International

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
		One month	-	Two year	6.12
Prime rate	8¼	Two month	-	Three year	6.27
Broker loan rate	7	Three month	5.14	Five year	6.46
Fed.funds	5⅞	Six month	5.39	10-year	6.71
Fed.funds at intervention	-	One year	5.70	30-year	6.92

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Dec	124.78	125.08	+0.26	125.10	124.74	102,777	205,912
Mar	124.62	124.92	+0.26	124.96	124.62	2,554	23,095
Jun	123.56	123.86	+0.26	123.68	123.56	2,511	1,237

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	CALLS Nov	CALLS Dec	CALLS Mar	PUTS Nov	PUTS Dec	PUTS Mar
122	3.09	3.16	-	0.03	0.12	-
123	-	2.27	-	0.09	-	-
124	1.25	1.50	1.97	0.21	0.48	-
125	0.57	0.88	1.41	0.52	0.84	1.51
126	0.20	0.46	-	-	-	-

Est. vol. total, Calls 15,917 Puts 20,388. Previous day's open int., Calls 133,901 Puts 114,001.

Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	98.66	98.98	+0.32	99.07	98.58	185839	239212
Mar	97.63	97.97	+0.31	97.99	97.63	2863	4167

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

Strike Price	CALLS Nov	CALLS Dec	CALLS Jan	CALLS Mar	PUTS Nov	PUTS Dec	PUTS Jan	PUTS Mar
9850	0.75	1.01	0.68	1.00	0.27	0.53	1.21	1.53
9900	0.44	0.72	0.48	0.78	0.46	0.74	1.51	1.81
9950	0.23	0.48	0.33	0.59	0.75	1.00	1.86	2.12

Est. vol. total, Calls 21190 Puts 14858. Previous day's open int., Calls 161535 Puts 151451

Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	121.19	121.95	+0.46	122.28	121.02	74807	72433
Mar		121.19	+0.45			0	871

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

Strike Price	CALLS Dec	CALLS Mar	PUTS Dec	PUTS Mar
12150	1.64	1.96	1.19	2.27
12200	1.35	1.72	1.40	2.53
12250	1.12	1.50	1.67	2.81

Est. vol. total, Calls 10014 Puts 7263. Previous day's open int., Calls 93230 Puts 126904

Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Dec	106.10	106.24	+0.43	106.78	105.95	98,843	81,107

UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	108-18	109-04	+0-17	109-07	108-18	83091	149587
Mar		108-08	+0-17			0	4

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

Strike Price	CALLS Nov	CALLS Dec	CALLS Jan	CALLS Mar	PUTS Nov	PUTS Dec	PUTS Jan	PUTS Mar
109	0-49	1-07	1-03	1-34	0-41	0-63	1-51	2-18
110	0-21	0-42	0-44	1-08	1-13	1-34	2-28	2-56
111	0-08	0-22	0-28	0-52	2-00	2-14	3-12	3-36

Est. vol. total, Calls 4108 Puts 260. Previous day's open int., Calls 22789 Puts 17500

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Dec	93.26	93.58	+0.24	93.60	93.26	1,412	7,515

US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Dec	109-06	109-19	+0-13	109-22	109-03	230,905	376,002
Mar	108-24	109-06	+0-14	109-06	108-24	2,377	20,160
Jun	-	108-09	-	-	-	615	5,342

Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Close	Change	High	Low	Est. vol	Open int.
Dec	122.17			122.20	122.10	1109	na
Mar	121.25			121.27	121.25	358	na

* LIFFE futures also traded on APT. All Open interest figs. are for previous day.

FTSE Actuaries Govt. Securities — UK Indices

Price Indices UK Gilts	Tue Oct 1	Day's change %	Mon Sep 30	Accrued interest	xd adj. ytd		Low coupon yield Oct 1	Sep 30	Yr. ago	Medium coupon yield Oct 1	Sep 30	Yr. ago	High coupon yield Oct 1	Sep 30	Yr. ago
1 Up to 5 years (22)	121.55	0.07	121.46	1.99	7.89	5 yrs	7.01	7.06	8.75	7.08	7.12	8.82	7.15	7.19	9.01
2 5-15 years (19)	150.23	0.36	149.69	3.33	7.82	15 yrs	7.90	7.95	8.71	7.85	7.92	8.84	7.90	7.95	9.05
3 Over 15 years (8)	164.67	0.65	163.61	2.68	9.83	20 yrs	8.02	8.07	8.67	7.94	8.01	8.84	7.99	8.04	8.95
4 Irredeemables (6)	189.36	0.66	188.12	3.47	8.83	Irred.†	8.04	8.09	8.72						
5 All stocks (55)	143.98	0.32	143.52	2.76	8.20										

Index-linked							Inflation 5% Oct 1	Sep 30	Yr. ago	Inflation 10% Oct 1	Sep 30	Yr. ago
6 Up to 5 years (2)	201.89	0.14	201.61	0.87	4.43	Up to 5 yrs	2.81	2.84	4.10	2.16	2.18	2.98
7 Over 5 years (10)	193.20	0.24	192.73	1.48	3.65	Over 5 yrs	3.47	3.49	3.68	3.27	3.29	3.69
8 All stocks (12)	193.07	0.23	192.62	1.41	3.66							

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

FT Fixed Interest Indices

	Oct 1	Sep 30	Sep 27	Sep 26	Sep 25	Yr ago	High*	Low*
Govt. Secs. (UK)	93.99	93.73	93.88	93.74	93.28	93.25	96.34	91.59
Fixed Interest	114.06	113.91	113.88	113.50	113.26	111.52	115.23	110.74

Gilt Edged Activity Indices

	Sep 30	Sep 27	Sep 26	Sep 25	Sep 24
Gilt Edged bargains	99.2	107.6	108.3	131.1	91.4
5-day average	107.5	105.1	102.2	99.8	93.4

 * for 1996. Government Securities high since compilation: 127.4 (09/01/35), low 49.18 (03/01/75). Fixed Interest high since compilation: 133.87 (21/01/94), low 50.53 (03/01/75). Basis 100: Government Securities 15/10/26 and Fixed Interest 1928. SE activity indices rebased 1974.

UK GILTS PRICES

Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Shorts" (Lives up to Five Years)						
Conversion 10pc 1996	9.96	5.78	100⅜	—	103⅞	100⅜
Treas 13¼pc 1997‡‡	12.94	5.77	102[illegible]	—	106[illegible]	100½
Exch 10½pc 1997	10.32	5.72	101[illegible]	—	107[illegible]	101¾
Treas Cnv 7pc 1997‡‡	6.93	5.87	100[illegible]	—	101[illegible]	99[illegible]
Treas 8¾pc 1997‡‡	8.54	5.93	102[illegible]	—	107[illegible]	102[illegible]
[illegible]						

Notes	Yield Int	Yield Red	Price £	+ or –	52 week High	52 week Low
Treas 7½pc 2006‡‡	-	7.59	98⅝	+[illegible]	101[illegible]	94[illegible]
Treas 7¾pc 2006‡‡	7.68	7.62	100⅞	+[illegible]	103¼	96[illegible]
Treas 8pc 2002-6‡‡	7.84	7.63	102[illegible]xd	+⅛	104[illegible]	97⅞
Treas 11¾pc 2003-7	9.66	7.37	121[illegible]	+[illegible]	125[illegible]	118[illegible]
Treas 8½pc 2007 ‡‡	8.02	7.67	106	+[illegible]	108[illegible]	101[illegible]
[illegible]						

Notes	Yield (1)	Yield (2)	Price £	+ or –	52 week High	52 week Low
Index-Linked (b)						
4⅝pc '98‡‡ (135.6)	0.37	2.10	114[illegible]	+[illegible]	114[illegible]	111[illegible]
2½pc '01 (78.3)	2.69	3.25	183¾	+¼	183¾	174[illegible]
2½pc '03 (78.8)	2.86	3.38	179[illegible]	+⅜	179[illegible]	170[illegible]
4⅜pc '04‡‡ (135.6)	3.02	3.40	117[illegible]	+[illegible]	117[illegible]	112[illegible]
2pc '06 (69.5)	3.16	3.45	189¾	+¼	189¾	179
[illegible]						

Other Fixed Interest

[illegible]						

FT/ISMA INTERNATIONAL BOND SERVICE

Listed are the latest international bonds for which there is an adequate secondary market. Latest prices at 7:10 pm on October 1

	Issued	Bid	Offer	Chg	Yield
U.S. DOLLAR STRAIGHTS					
Abbey Natl Treasury 6½ 03	1000	98¼	98½	+⅛	6.83
ABN Amro Bank 7¼ 05	1000	100⅛	100⅜	+⅛	7.35
Alncan Dev Bk 7⅜ 23	500	96¾	97¼	+¼	7.66
Alberta Province 7⅜ 98	1000	102½	102⅝	-⅛	6.30
[illegible]					

	Issued	Bid	Offer	Chg	Yield
Sweden 8 97	2500	104⅞	105		3.38
United Kingdom 7¼ 97	5500	104	104⅛		3.27
Volkswagen Intl Fin 7 03	1000	105⅝	105⅞		5.94
World Bank 0 15	2000	32⅞	33⅜	-1⅝	5.98
World Bank 5⅞ 03	3000	101½	101⅝	+¼	5.61
[illegible]					

	Issued	Bid	Offer	Chg	Yield
Abbey Natl Treasury 8 03 £	1000	101⅝	101⅞	+¼	7.86
British Land 8⅞ 23 £	150	93½	93½	+½	9.78
Denmark 6¾ 98 £	800	100⅜	100½		6.52
Depfa Finance 7⅛ 03 £	500	97	97⅛	+⅛	7.69
EIB 8 03 £	1000	102¾	103	+⅛	7.45
[illegible]					

CURRENCIES AND MONEY

Emu membership doubts fail to disturb lira

MARKETS REPORT

By Richard Adams

The Italian lira continued to stay below the magic L1,000 level against the D-Mark in foreign exchange trading yesterday, despite doubts cast on Italy's early membership of a single European currency.

The lira closed the day on the London market at L997.1 against the D-Mark, a further improvement from its previous level of L997.5.

The Italian bond and currency markets showed little reaction to sceptical statements about Italian membership of a single currency by Mr Otmar Issing, the Bundesbank's chief economist, and Mr Jacques Chirac, the French president. Mr Chirac warned that "it may take a little bit longer for those who are further behind, like Italy," to join the first round of European monetary union.

Mr Chirac's statement, which was quickly retracted, threatened to undermine the lira's value, which has risen sharply recently on hopes that Italy will qualify for Emu's first stage.

The D-Mark stayed flat against other European currencies, as most other European government bonds outperformed bunds. The D-Mark gained slightly against the French franc, to close at FFr3.387, up from FFr3.383.

A rise in US Treasury prices had little influence on the dollar, which was range-bound against the D-Mark and the pound. It fell overnight against the yen, after reports that the Japanese government favoured a strong dollar, but not a "stronger dollar".

A spokesman later said the Japanese government did not regard a rise in the dollar as "undesirable".

UK government bonds enjoyed a half-point gain, but action in the bond market did not carry over into currency movements, as the pound rose slightly against the dollar and the D-Mark.

■ The lira's strength against the D-Mark may have more to do with simply optimism about the currency becoming a member of Emu.

Yesterday, both the president of France and the chief economist of the Bundesbank appeared to pour cold water on Italy's enthusiasm for joining Emu.

But few in the markets would have predicted that the comments would have such little impact on the lira's level.

The lira did fall, but recovered strongly after Mr Romano Prodi, the country's prime minister, called the French ambassador to explain the remarks. Reuters reported that Mr Prodi threatened to cancel his scheduled meeting with Mr Chirac on Thursday.

Mr Chirac later said: "I believe the Italian government is fully determined to do everything, as it has shown in its budget, to be in the first wave of countries to join the euro. I ardently hope it will succeed."

One London dealer said: "This shows the Italians are very serious about joining Emu, to the extent they are willing to risk a slanging match with Chirac."

But analysis by Mr Avinash Persaud, a currency strategist at JP Morgan in London, suggests that the market's current risk appetite for high-yielding currencies is buoyant. That appetite would have helped the lira shrug off concerns about membership of Emu.

■ Mr Issing said the D-Mark was now correctly valued against the dollar, after its sharp rise in 1995. "In the spring of last year there was a very sharp appreciation of the mark in a very short period," Mr Issing said.

"This has now been mostly corrected. [Exchange rates] are now more or less stable."

In spring 1995, the D-Mark hit an all-time high of DM1.3450 against the dollar.

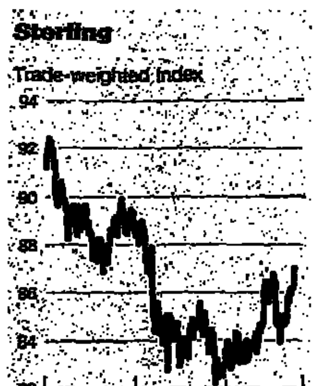
Mr Nick Parsons, an analyst at Paribas Capital Markets in London, said the D-Mark's recent weakness was driven by the strength of the German bund market. "As long as long-term yields in Germany are falling, the Bundesbank is happy to see a weaker D-Mark," he said.

"On any sign that Germany's long yields are backing up, we feel that the Bundesbank will try to shore up the domestic market by talking tough on the Maastricht criteria."

Meanwhile, Mr Johann Wilhelm Gaddum, the Bundesbank's deputy president, said German interest rates were likely to remain unchanged.

Sterling

Trade-weighted index



Source: Datastream

■ Pound in New York

Oct 1	—Latest—	— Prev. close —
£ spot	1.5645	1.5650
1 mth	1.5640	1.5644
3 mth	1.5635	1.5640
1 yr	1.5613	1.5620

■ OTHER CURRENCIES

Oct 1	£	$
Czech Rp	42.2506 - 42.3192	27.0110 - 27.0410
Hungary	242.256 - 242.487	154.800 - 154.950
Iran	4685.00 - 4692.00	3000.00 - 3000.00
Kuwait	0.4683 - 0.4697	0.2993 - 0.3001
Poland	4.2661 - 4.2881	2.8050 - 2.8090
Russia	8458.58 - 8474.48	5414.00 - 5415.00
U.A.E.	5.7452 - 5.7484	3.6725 - 3.6731

● For the latest market update, ring FT Cityline on +44 990 209909

To subscribe, call +44 171 873 4378

POUND SPOT FORWARD AGAINST THE POUND

Oct 1		Closing mid-point	Change on day	Bid/offer spread	Day's Mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	Bank of Eng. Index
Europe													
Austria	(Sch)	16.7934	+0.0179	851 - 017	16.8033	16.7546	16.7499	3.1	16.6934	2.4	-	-	104.7
Belgium	(BFr)	49.1441	+0.0689	002 - 880	49.1890	49.0610	49.0241	2.9	48.7991	2.8	47.7791	2.8	108.2
Denmark	(DKr)	9.1620	+0.0059	581 - 658	9.1687	9.1473	9.1447	2.3	9.1131	2.1	8.9748	2.0	107.5
Finland	(FM)	7.1525	+0.0116	448 - 602	7.1610	7.1350	-	-	-	-	-	-	85.1
France	(FFr)	8.0843	+0.0152	807 - 878	8.0897	8.0673	8.0677	2.5	8.0389	2.3	7.8992	2.3	108.7
Germany	(DM)	2.3872	+0.0026	862 - 882	2.3885	2.3821	2.3817	2.8	2.3704	2.8	2.3206	2.8	108.0
Greece	(Dr)	377.100	+0.367	910 - 290	379.007	374.353	-	-	-	-	-	-	67.3
Ireland	(I£)	0.9761	-0.0001	755 - 766	0.9774	0.9753	0.9759	0.2	0.9756	0.2	0.9728	0.3	99.9
Italy	(L)	2379.95	+0.38	876 - 115	2388.81	2378.52	2385	-2.5	2393.55	-2.3	2414.95	-1.5	77.5
Luxembourg	(LFr)	49.1441	+0.0689	002 - 880	49.1890	49.0610	49.0241	2.9	48.7991	2.8	47.7791	2.8	108.2
Netherlands	(Fl)	2.6775	+0.0029	763 - 786	2.6794	2.6716	2.6706	3.1	2.6575	3.0	2.5989	2.9	106.3
Norway	(NKr)	10.1750	+0.0094	689 - 788	10.2002	10.1388	10.1639	1.2	10.1524	0.9	10.1004	0.7	98.5
Portugal	(Es)	242.638	+0.147	498 - 779	242.856	241.150	242.823	-0.9	243.263	-1.0	-	-	95.5
Spain	(Pta)	201.020	+0.272	937 - 103	201.169	200.597	201.22	-1.3	201.575	-1.1	202.375	-0.7	80.2
Sweden	(SKr)	10.3674	+0.0114	575 - 772	10.3815	10.3548	10.3668	0.1	10.3647	0.1	10.3561	0.1	90.3
Switzerland	(SFr)	1.9614	+0.0016	603 - 625	1.9657	1.9592	1.9538	4.6	1.9401	4.3	1.879	4.2	110.7
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	87.0
Ecu	-	1.2525	+0.0001	519 - 530	1.2531	1.2495	1.2507	1.8	1.2471	1.7	1.2294	1.8	-
SDR†	-	1.085340	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.5644	+0.0012	640 - 648	1.5668	1.5626	-	-	-	-	-	-	-
Brazil	(R$)	1.5976	+0.0013	970 - 982	1.5999	1.5961	-	-	-	-	-	-	-
Canada	(C$)	2.1317	+0.0019	308 - 326	2.1354	2.1290	2.1281	2.0	2.1217	1.9	2.0964	1.6	84.7
Mexico	(New Peso)	11.7830	+0.0207	722 - 938	11.8120	11.7720	-	-	-	-	-	-	-
USA	($)	1.5648	+0.0012	642 - 650	1.5670	1.5630	1.5644	0.5	1.5635	0.3	1.5617	0.2	97.5
Pacific/Middle East/Africa													
Australia	(A$)	1.9784	+0.0005	762 - 775	1.9824	1.9737	1.978	-1.0	1.9804	-0.8	1.9863	-0.5	93.9
Hong Kong	(HK$)	12.0978	+0.0093	939 - 017	12.1182	12.0859	12.0937	0.4	12.0907	0.2	12.1018	0.0	-
India	(Rs)	55.7781	+0.0428	508 - 053	56.1090	55.4450	-	-	-	-	-	-	-
Israel	(Shk)	4.9679	+0.0207	635 - 931	5.0177	4.9626	-	-	-	-	-	-	-
Japan	(Y)	174.132	+0.008	033 - 232	174.540	173.820	173.282	5.9	171.672	5.7	164.887	5.3	131.2
Malaysia	(M$)	3.9154	+0.0033	136 - 172	3.9271	3.9110	-	-	-	-	-	-	-
New Zealand	(NZ$)	2.2369	+0.0014	356 - 383	2.2396	2.2310	2.2447	-4.2	2.2586	-3.9	2.2971	-2.7	110.6
Philippines	(Peso)	41.0395	+0.0237	664 - 126	41.1140	40.9567	-	-	-	-	-	-	-
Saudi Arabia	(SR)	5.8680	+0.0044	662 - 698	5.8769	5.8623	-	-	-	-	-	-	-
Singapore	(S$)	2.2040	+0.0025	030 - 049	2.2057	2.2026	-	-	-	-	-	-	-
South Africa	(R)	7.0978	+0.0054	921 - 035	7.1215	7.0687	-	-	-	-	-	-	-
South Korea	(Won)	1284.46	-6.91	405 - 487	1292.57	1283.22	-	-	-	-	-	-	-
Taiwan	(T$)	42.9953	+0.033	688 - 219	43.0596	42.9669	-	-	-	-	-	-	-
Thailand	(Bt)	39.7843	+0.0266	463 - 823	39.8260	39.7100	-	-	-	-	-	-	-

† Rates for Sep 30. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T.

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Oct 1		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	J.P. Morgan Index
Europe													
Austria	(Sch)	10.7334	+0.0033	308 - 359	10.7400	10.6990	10.7136	2.2	10.6734	2.2	10.4784	2.4	104.6
Belgium	(BFr)	31.4100	+0.02	800 - 300	31.4300	31.2230	31.345	2.5	31.2125	2.5	30.5925	2.6	106.0
Denmark	(DKr)	5.8556	-0.0007	548 - 568	5.8575	5.8420	5.8469	1.8	5.8285	1.9	5.7468	1.9	106.8
Finland	(FM)	4.5715	+0.004	677 - 752	4.5756	4.5565	4.5627	2.3	4.544	2.4	4.4615	2.4	84.5
France	(FFr)	5.1670	+0.0057	660 - 680	5.1680	5.1499	5.1582	2.0	5.1402	2.1	5.058	2.1	108.3
Germany	(DM)	1.5258	+0.0005	255 - 260	1.5269	1.5210	1.5228	2.4	1.5162	2.5	1.486	2.6	107.4
Greece	(Dr)	241.020	+0.05	980 - 060	242.270	239.020	242.575	-7.7	245.145	-6.8	256.17	-6.3	66.9
Ireland	(I£)	1.6030	+0.0014	025 - 035	1.6059	1.5995	1.6027	0.2	1.6024	0.1	1.5992	0.2	-
Italy	(L)	1521.13	-0.82	075 - 150	1526.00	1519.75	1524.93	-3.0	1530.88	-2.6	1546.38	-1.7	76.9
Luxembourg	(LFr)	31.4100	+0.02	800 - 300	31.4300	31.2230	31.345	2.5	31.2125	2.5	30.5925	2.6	106.0
Netherlands	(Fl)	1.7115	+0.0006	110 - 120	1.7123	1.7058	1.7077	2.7	1.6997	2.8	1.6642	2.8	105.9
Norway	(NKr)	6.5025	+0.001	010 - 040	6.5155	6.4881	6.4988	0.7	6.4931	0.6	6.4675	0.5	97.8
Portugal	(Es)	155.080	-0.025	030 - 130	155.210	154.050	155.3	-1.7	155.595	-1.3	156.415	-0.9	95.5
Spain	(Pta)	128.480	+0.075	460 - 500	128.550	128.140	128.66	-1.7	128.965	-1.5	129.585	-0.9	80.0
Sweden	(SKr)	6.6262	+0.0022	216 - 307	6.6327	6.6131	6.6234	0.5	6.6136	0.8	6.5662	0.9	89.8
Switzerland	(SFr)	1.2536	-	532 - 540	1.2562	1.2510	1.2492	4.2	1.2409	4.1	1.2031	4.0	110.2
UK	(£)	1.5646	+0.0012	642 - 650	1.5670	1.5630	1.564	0.5	1.5635	0.3	1.5617	0.2	86.8
Ecu	-	1.2493	-	490 - 495	1.2527	1.2490	1.2507	-1.3	1.2538	-1.4	1.2704	-1.7	-
SDR†	-	0.694748	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9999	-	999 - 999	0.9999	0.9999	-	-	-	-	-	-	-
Brazil	(R$)	1.0211	+0.0001	210 - 212	1.0212	1.0210	-	-	-	-	-	-	-
Canada	(C$)	1.3625	+0.0002	622 - 627	1.3631	1.3620	1.3608	1.5	1.3571	1.6	1.3437	1.4	84.0
Mexico	(New Peso)	7.5310	-0.018	260 - 360	7.5360	7.5260	7.646	-18.8	7.9155	-20.4	8.776	-16.5	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	98.4
Pacific/Middle East/Africa													
Australia	(A$)	1.2651	-0.0006	626 - 636	1.2651	1.2626	1.2646	-1.4	1.2665	-1.1	1.272	-0.7	95.6
Hong Kong	(HK$)	7.7322	-0.0008	317 - 327	7.7330	7.7315	7.7321	0.0	7.7326	0.0	7.7437	-0.1	-
India	(Rs)	35.6500	-	300 - 500	35.8800	35.4500	35.885	-7.2	36.325	-7.6	-	-	-
Israel	(Shk)	3.1850	-0.0169	854 - 905	3.2030	3.1850	-	-	-	-	-	-	-
Japan	(Y)	111.295	-0.08	260 - 330	111.430	110.870	110.79	5.4	109.795	5.4	105.58	5.1	131.4
Malaysia	(M$)	2.5025	-0.004	020 - 030	2.5064	2.5015	2.5053	-1.4	2.5107	-1.3	2.532	-1.2	-
New Zealand	(NZ$)	1.4296	-0.0002	291 - 300	1.4304	1.4274	1.4351	-4.6	1.4394	-2.7	1.4709	-2.9	-
Philippines	(Peso)	26.2300	-0.005	900 - 700	26.2700	26.1900	-	-	-	-	-	-	-
Saudi Arabia	(SR)	3.7505	-	503 - 507	3.7507	3.7502	3.7508	-0.1	3.7512	-0.1	3.7531	-0.1	-
Singapore	(S$)	1.4087	+0.0006	084 - 089	1.4096	1.4075	1.4085	1.8	1.402	1.9	1.3807	2.0	-
South Africa	(R)	4.5365	-	340 - 390	4.5490	4.5225	4.5772	-10.8	4.6522	-10.2	4.967	-9.5	-
South Korea	(Won)	820.950	-5.05	900 - 000	824.200	820.800	-	-	-	-	-	-	-
Taiwan	(T$)	27.4800	-	700 - 900	27.4920	27.4650	27.4801	0.0	27.4803	0.0	-	-	-
Thailand	(Bt)	25.4150	-0.0025	100 - 200	25.4220	25.4050	25.505	-4.2	25.6725	-4.1	26.31	-3.5	-

† SDR rate per $ for Sep 30. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Sep 30: Base average 1990=100.

WORLD INTEREST RATES

MONEY RATES

October 1	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{1}{8}$	$3\frac{1}{4}$	6.00	2.50	-
week ago	$2\frac{27}{32}$	$3\frac{1}{32}$	$3\frac{1}{8}$	$3\frac{1}{4}$	$3\frac{1}{4}$	6.00	2.50	-
France	$3\frac{7}{16}$	$3\frac{5}{8}$	$3\frac{5}{16}$	$3\frac{13}{32}$	$3\frac{19}{32}$	3.35	-	4.75
week ago	$3\frac{7}{16}$	$3\frac{3}{8}$	$3\frac{3}{8}$	$3\frac{13}{32}$	$3\frac{19}{32}$	3.35	-	4.75
Germany	$3\frac{1}{32}$	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{1}{4}$	4.50	2.50	3.00
week ago	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{1}{16}$	$3\frac{3}{32}$	$3\frac{1}{4}$	4.50	2.50	3.00
Ireland	$5\frac{1}{2}$	$5\frac{5}{8}$	$5\frac{3}{4}$	$5\frac{13}{16}$	$5\frac{15}{16}$	-	-	6.25
week ago	$5\frac{1}{16}$	$5\frac{5}{8}$	$5\frac{3}{4}$	$5\frac{7}{8}$	$6\frac{1}{16}$	-	-	6.25
Italy	$8\frac{5}{8}$	$8\frac{1}{4}$	$8\frac{3}{16}$	$7\frac{7}{8}$	$7\frac{11}{16}$	-	8.25	8.38
week ago	$8\frac{7}{8}$	$8\frac{1}{2}$	$8\frac{7}{16}$	$8\frac{1}{16}$	$7\frac{13}{16}$	-	8.25	8.50
Netherlands	$2\frac{13}{16}$	$2\frac{29}{32}$	$2\frac{29}{32}$	$2\frac{31}{32}$	$3\frac{1}{16}$	-	3.00	3.30
week ago	$2\frac{25}{32}$	$2\frac{29}{32}$	$2\frac{3}{4}$	$2\frac{15}{16}$	$3\frac{1}{16}$	-	3.00	3.30
Switzerland	$1\frac{7}{16}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{9}{16}$	$1\frac{7}{8}$	-	1.00	-
week ago	$1\frac{3}{16}$	$1\frac{3}{8}$	$1\frac{19}{32}$	$1\frac{3}{4}$	$1\frac{15}{16}$	-	1.50	-
US	$5\frac{3}{16}$	$5\frac{3}{8}$	$5\frac{17}{32}$	$5\frac{23}{32}$	$6\frac{1}{32}$	-	5.00	-
week ago	$5\frac{3}{8}$	$5\frac{3}{8}$	$5\frac{5}{8}$	$5\frac{3}{4}$	$6\frac{1}{8}$	-	5.00	-
Japan	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{17}{32}$	$\frac{7}{16}$	$\frac{11}{16}$	-	0.50	-
week ago	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{15}{32}$	$\frac{7}{16}$	$\frac{19}{32}$	-	0.50	-
■ $ LIBOR FT London								
Interbank Fixing	-	$5\frac{7}{16}$	$5\frac{21}{32}$	$5\frac{3}{4}$	6	-	-	-
week ago	-	$5\frac{7}{16}$	$5\frac{21}{32}$	$5\frac{27}{32}$	$6\frac{1}{8}$	-	-	-
US Dollar CDs	-	5.15	5.22	5.35	5.62	-	-	-
week ago	-	5.15	5.30	5.45	5.75	-	-	-
ECU Linked Ds	-	$4\frac{1}{4}$	$4\frac{1}{8}$	$4\frac{1}{8}$	$4\frac{3}{16}$	-	-	-
week ago	-	$4\frac{1}{8}$	$4\frac{5}{32}$	$4\frac{3}{16}$	$4\frac{5}{16}$	-	-	-
SDR Linked Ds	-	$3\frac{3}{16}$	$3\frac{3}{32}$	$3\frac{3}{8}$	$3\frac{19}{32}$	-	-	-
week ago	-	$3\frac{3}{16}$	$3\frac{5}{16}$	$3\frac{17}{32}$	$3\frac{5}{8}$	-	-	-

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

EURO CURRENCY INTEREST RATES

Oct 1	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	$3\frac{1}{8}$ - $2\frac{31}{32}$	$3\frac{1}{8}$ - $2\frac{31}{32}$	$3\frac{3}{32}$ - $2\frac{31}{32}$	$3\frac{5}{32}$ - $3\frac{1}{32}$	$3\frac{7}{32}$ - $3\frac{1}{16}$	$3\frac{1}{4}$ - $3\frac{5}{32}$
Danish Krone	$3\frac{1}{2}$ - $3\frac{1}{4}$	$3\frac{13}{32}$ - $3\frac{1}{2}$	$3\frac{11}{16}$ - $3\frac{1}{2}$	$3\frac{13}{16}$ - $3\frac{5}{8}$	$3\frac{7}{8}$ - $3\frac{11}{16}$	4 - $3\frac{27}{32}$
D-Mark	$3\frac{1}{8}$ - $2\frac{15}{16}$	$3\frac{5}{32}$ - $3\frac{1}{32}$	$3\frac{3}{32}$ - $2\frac{7}{8}$	$3\frac{3}{32}$ - $2\frac{7}{8}$	$3\frac{3}{32}$ - $2\frac{7}{8}$	$3\frac{1}{4}$ - $3\frac{1}{8}$
Dutch Guilder	$2\frac{7}{8}$ - $2\frac{3}{4}$	$2\frac{7}{8}$ - $2\frac{3}{4}$	$2\frac{31}{32}$ - $2\frac{3}{4}$	$2\frac{7}{8}$ - $2\frac{27}{32}$	$2\frac{7}{8}$ - $2\frac{27}{32}$	$3\frac{1}{16}$ - $2\frac{31}{32}$
French Franc	$3\frac{1}{2}$ - $3\frac{3}{8}$	$3\frac{9}{16}$ - $3\frac{7}{16}$	$3\frac{7}{16}$ - $3\frac{1}{8}$	$3\frac{17}{32}$ - $3\frac{7}{16}$	$3\frac{5}{8}$ - $3\frac{9}{16}$	$3\frac{3}{4}$ - $3\frac{5}{8}$
Portuguese Esc.	$7\frac{1}{4}$ - $7\frac{7}{32}$	$7\frac{9}{32}$ - $7\frac{3}{16}$	$7\frac{5}{32}$ - $7\frac{1}{16}$	$7\frac{1}{8}$ - 7	$7\frac{1}{32}$ - $6\frac{13}{16}$	$7\frac{1}{32}$ - $6\frac{15}{16}$
Spanish Peseta	$7\frac{11}{32}$ - $7\frac{15}{32}$	$7\frac{1}{8}$ - $7\frac{1}{16}$	7 - $6\frac{7}{8}$	$6\frac{31}{32}$ - $6\frac{27}{32}$	$6\frac{29}{32}$ - $6\frac{25}{32}$	$6\frac{29}{32}$ - $6\frac{25}{32}$
Sterling	$5\frac{7}{8}$ - $5\frac{3}{4}$	$5\frac{13}{16}$ - $5\frac{3}{4}$	$5\frac{27}{32}$ - $5\frac{23}{32}$	$5\frac{29}{32}$ - $5\frac{27}{32}$	6 - $5\frac{15}{16}$	$6\frac{1}{4}$ - $6\frac{1}{8}$
Swiss Franc	$1\frac{1}{2}$ - $1\frac{3}{8}$	$1\frac{1}{2}$ - $1\frac{3}{8}$	$1\frac{1}{2}$ - $1\frac{3}{8}$	$1\frac{5}{8}$ - $1\frac{1}{2}$	$1\frac{5}{8}$ - $1\frac{1}{2}$	$1\frac{3}{4}$ - $1\frac{5}{8}$
Can. Dollar	$4\frac{1}{16}$ - $3\frac{7}{8}$	$4\frac{1}{16}$ - $3\frac{7}{8}$	4 - $3\frac{7}{8}$	$4\frac{1}{16}$ - $3\frac{15}{16}$	$4\frac{3}{16}$ - $4\frac{1}{16}$	$4\frac{1}{2}$ - $4\frac{3}{8}$
US Dollar	$5\frac{1}{2}$ - $5\frac{3}{8}$	$5\frac{13}{32}$ - $5\frac{9}{32}$	$5\frac{15}{32}$ - $5\frac{1}{4}$	$5\frac{19}{32}$ - $5\frac{1}{2}$	$5\frac{23}{32}$ - $5\frac{19}{32}$	$5\frac{15}{16}$ - $5\frac{13}{16}$
Italian Lira	$8\frac{1}{4}$ - $8\frac{1}{8}$	$8\frac{3}{16}$ - $8\frac{3}{32}$	$8\frac{3}{16}$ - $8\frac{1}{16}$	$8\frac{3}{16}$ - $8\frac{1}{16}$	$7\frac{15}{16}$ - $7\frac{13}{16}$	$7\frac{11}{16}$ - $7\frac{9}{16}$
Yen	$\frac{1}{2}$ - $\frac{3}{8}$	$\frac{7}{16}$ - $\frac{5}{16}$	$\frac{7}{16}$ - $\frac{5}{16}$	$\frac{15}{32}$ - $\frac{11}{32}$	$\frac{1}{2}$ - $\frac{13}{32}$	$\frac{3}{4}$ - $\frac{5}{8}$
Asian $Sing	$2\frac{13}{16}$ - $2\frac{11}{16}$	3 - $2\frac{7}{8}$	$3\frac{1}{16}$ - $2\frac{15}{16}$	$3\frac{3}{16}$ - $3\frac{1}{16}$	$3\frac{1}{4}$ - $3\frac{1}{8}$	$3\frac{1}{2}$ - $3\frac{3}{8}$

Short term rates are call for the US Dollar and Yen, others: two days' notice

■ THREE MONTH PIBOR FUTURES (MATIF) Paris Interbank offered rate (FFr 5m)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	96.29	96.31	-	96.33	96.27	22,024	66,235
Mar	96.24	96.26	-	96.27	96.23	4,897	37,544
Jun	96.14	96.16	-	96.18	96.14	561	25,229

■ THREE MONTH EUROMARK FUTURES (LIFFE)* DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	96.84	96.87	+0.02	96.87	96.84	25645	210621
Mar	96.77	96.81	+0.03	96.82	96.77	21182	214752
Jun	96.59	96.67	+0.07	96.68	96.58	28707	159439
Sep	96.34	96.43	+0.09	96.44	96.33	27323	132503

■ THREE MONTH EUROLIRA FUTURES (LIFFE)* L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	92.23	92.27	-0.01	92.29	92.18	22400	56988
Mar	92.69	92.79	+0.04	92.82	92.66	8268	31785
Jun	92.91	93.01	+0.06	93.02	92.86	3951	26924
Sep	92.91	93.04	+0.06	93.05	92.91	1209	13284

■ THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	98.36	98.39	+0.02	98.40	98.32	6390	42454
Mar	98.27	98.31	+0.02	98.33	98.24	2374	21365
Jun	98.04	98.11	+0.04	98.11	98.04	811	9610
Sep	97.74	97.82	+0.05	97.79	97.74	185	2502

■ THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	99.39	99.39	+0.01	99.39	99.39	69	0
Mar	99.24	99.24	+0.02	99.24	99.24	3	0
Jun		99.06	+0.03			0	0

■ THREE MONTH ECU FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	95.81	95.86	+0.02	95.87	95.81	819	8834
Mar	95.80	95.85	+0.03	95.86	95.80	433	3646
Jun	95.72	95.79	+0.05	95.80	95.72	356	2850
Sep	95.56	95.64	+0.06	95.64	95.56	257	2173

* LIFFE futures also traded on APT

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Oct 1		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.64	16.45	4.858	1.986	4843	5.450	20.70	493.7	409.0	21.10	3.991	2.035	4.339	3.185	354.3	2.550
Denmark	(DKr)	53.63	10	8.823	2.605	1.065	2598	2.923	11.10	264.8	219.4	11.32	2.140	1.091	2.327	1.708	190.0	1.368
France	(FFr)	60.79	11.33	10	2.953	1.207	2944	3.313	12.58	300.1	248.6	12.83	2.426	1.237	2.637	1.936	215.4	1.550
Germany	(DM)	20.59	3.838	3.387	1	0.409	997.1	1.122	4.261	101.6	84.21	4.344	0.822	0.419	0.893	0.656	72.94	0.525
Ireland	(I£)	50.35	9.387	8.283	2.446	1	2439	2.744	10.42	248.6	205.9	10.63	2.009	1.025	2.184	1.603	178.4	1.284
Italy	(L)	2.065	0.385	0.340	0.100	0.041	100.	0.113	0.427	10.19	8.445	0.436	0.082	0.042	0.090	0.066	7.315	0.053
Netherlands	(Fl)	18.35	3.421	3.019	0.891	0.364	888.7	1	3.798	90.59	75.06	3.872	0.732	0.373	0.796	0.584	65.01	0.468
Norway	(NKr)	48.32	9.009	7.949	2.347	0.960	2340	2.633	10	238.5	197.6	10.20	1.928	0.983	2.096	1.539	171.2	1.232
Portugal	(Es)	20.26	3.777	3.332	0.984	0.402	981.0	1.104	4.192	100.	82.85	4.275	0.808	0.412	0.879	0.645	71.76	0.516
Spain	(Pta)	24.45	4.558	4.022	1.188	0.486	1184	1.332	5.060	120.7	100.	5.159	0.976	0.498	1.061	0.779	86.62	0.623
Sweden	(SKr)	47.39	8.835	7.796	2.302	0.941	2295	2.582	9.807	233.9	193.8	10	1.891	0.964	2.056	1.509	167.9	1.208
Switzerland	(SFr)	25.06	4.672	4.122	1.217	0.498	1214	1.366	5.186	123.7	102.5	5.288	1	0.510	1.087	0.798	88.78	0.639
UK	(£)	49.14	9.162	8.084	2.387	0.976	2380	2.678	10.17	242.6	201.0	10.37	1.961	1	2.132	1.565	174.1	1.253
Canada	(C$)	23.05	4.297	3.792	1.120	0.458	1116	1.256	4.770	113.8	94.28	4.864	0.920	0.469	1	0.734	81.66	0.588
US	($)	31.40	5.854	5.165	1.525	0.624	1521	1.711	6.496	155.0	128.4	6.626	1.253	0.639	1.362	1	111.2	0.801
Japan	(Y)	28.23	5.262	4.643	1.371	0.561	1367	1.538	5.841	139.3	115.5	5.956	1.126	0.574	1.225	0.899	100.	0.720
Ecu		39.22	7.312	6.452	1.905	0.779	1899	2.137	8.117	193.6	160.4	8.276	1.565	0.798	1.702	1.249	138.9	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ D-MARK FUTURES (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	0.6590	0.6585	-0.0005	0.6607	0.6585	18,958	67,402
Mar	0.6640	0.6632	-0.0001	0.6640	0.6632	294	1,534
Jun	-	0.6676	-	-	-	42	2,112

■ JAPANESE YEN FUTURES (IMM) Yen 12.5 per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	0.9072	0.9073	-0.0003	0.9120	0.9070	18,716	75,359
Mar	0.9220	0.9210	+0.0013	0.9220	0.9203	96	1,660
Jun	0.9315	0.9315	-0.0003	0.9315	0.9315	4	193

■ SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	0.8042	0.8040	+0.0001	0.8062	0.8033	9,594	40,460
Mar	0.8119	0.8122	+0.0002	0.8132	0.8119	128	1,619
Jun	-	0.8209	+0.0005	0.8210	-	4	89

■ STERLING FUTURES (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	1.5654	1.5630	-0.0016	1.5658	1.5616	3,622	39,723
Mar	-	1.5630	-0.0016	-	1.5630	15	88
Jun	-	1.5630	-0.0016	-	1.5630	4	2

UK INTEREST RATES

LONDON MONEY RATES

Oct 1	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	$5\frac{3}{4}$ - $5\frac{1}{2}$	$5\frac{7}{8}$ - $5\frac{5}{8}$	$5\frac{7}{8}$ - $5\frac{3}{4}$	6 - $5\frac{13}{16}$	$6\frac{1}{16}$ - $5\frac{15}{16}$	$6\frac{5}{16}$ - $6\frac{3}{16}$
Sterling CDs	-	-	$5\frac{27}{32}$ - $5\frac{23}{32}$	$5\frac{27}{32}$ - $5\frac{13}{16}$	$5\frac{29}{32}$ - $5\frac{27}{32}$	$6\frac{3}{32}$ - $6\frac{1}{32}$
Treasury Bills	-	-	$5\frac{11}{16}$ - $5\frac{5}{8}$	$5\frac{21}{32}$ - $5\frac{17}{32}$	-	-
Bank Bills	-	-	$5\frac{23}{32}$ - $5\frac{21}{32}$	$5\frac{23}{32}$ - $5\frac{21}{32}$	$5\frac{13}{16}$ - $5\frac{3}{4}$	-
Local authority deps.	$5\frac{13}{16}$ - $5\frac{11}{16}$	$5\frac{13}{16}$ - $5\frac{11}{16}$	$5\frac{13}{16}$ - $5\frac{3}{4}$	$5\frac{7}{8}$ - $5\frac{13}{16}$	6 - $5\frac{7}{8}$	$6\frac{1}{8}$ - $6\frac{1}{16}$
Discount Market deps	$6\frac{1}{4}$ - $5\frac{5}{8}$	$5\frac{13}{16}$ - $5\frac{3}{4}$	-	-	-	-

UK clearing bank base lending rate $5\frac{3}{4}$ per cent from June 6, 1996

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	$2\frac{1}{2}$	$5\frac{1}{2}$	5	5	$4\frac{1}{2}$

Certs of Tax dep. under £100,000 is $2\frac{1}{2}$pc. Deposits withdrawn for cash $1\frac{1}{4}$pc. Ave. tender rate of discount on Sep 20, 5.5516pc. ECGD fixed rate Stg. Export Finance. Make up day Sep 30, 1996. Agreed rate for period Oct 26, 1996 to Nov 25, 1996, Schemes II & III 7.09pc. Reference rate for period Aug 31, 1996 to Sep 30, 1996, Schemes IV & V 5.846pc. Finance House Base Rate 6pc from Oct 1, 1996

■ THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	94.02	94.02	-	94.03	94.00	13849	117683
Mar	93.85	93.87	+0.01	93.88	93.83	13111	80240
Jun	93.59	93.63	+0.04	93.64	93.57	11085	77490
Sep	93.30	93.35	+0.05	93.36	93.29	4790	42784
Dec	93.02	93.09	+0.07	93.11	93.01	3847	33089

Also traded on APT. All Open interest figs. are for previous day.

■ SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%

Strike Price	CALLS Dec	Mar	Jun	PUTS Dec	Mar	Jun
9400	0.11	0.13	0.15	0.09	0.26	0.52
9425	0.02	0.05	0.09	0.25	0.43	0.71
9450	0	0.02	0.05	0.48	0.65	0.92

Est. vol. total, Calls 1800 Puts 3352. Previous day's open int., Calls 111161 Puts 123593

EMS EUROPEAN CURRENCY UNIT RATES

Oct 1	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Ireland	0.792214	0.785510	+0.000275	-0.85	2.24	6
Spain	162.493	161.554	+0.108	-0.58	1.96	4
Portugal	195.792	195.139	-0.065	-0.33	1.71	2
Netherlands	2.15214	2.15221	-0.00028	0.00	1.37	-0
Belgium	39.3960	39.5046	+0.0001	0.28	1.10	-2
Austria	13.4383	13.4991	-0.0005	0.45	0.92	-3
Germany	1.91007	1.91892	-0.0001	0.46	0.91	-5
Denmark	7.28580	7.36438	-0.00589	1.08	0.29	-7
France	6.40608	6.49413	-0.00078	1.37	0.00	-12
NON ERM MEMBERS						
Greece	292.867	303.190	+0.216	3.52	-2.08	-
Italy	2106.15	1915.61	-1.31	-9.05	11.48	-
UK	0.786652	0.804700	+0.000716	2.29	-0.90	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate.
(17/9/92) Sterling and Italian Lira suspended from ERM. Adjustment calculated by the Financial Times.

■ PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)

Strike Price	CALLS Oct	Nov	Dec	PUTS Oct	Nov	Dec
1.540	2.51	2.67	2.92	-	0.24	0.51
1.550	1.55	1.96	2.27	0.04	0.48	0.80
1.560	0.79	1.32	1.67	0.27	0.84	1.20
1.570	0.29	0.83	1.18	0.77	1.35	1.71
1.580	0.04	0.48	0.80	1.52	1.99	2.32

Previous day's vol., Calls 3,378 Puts 9,525 . Prev. day's open int., Calls 142,031 Puts 116,340

■ THREE MONTH EURODOLLAR (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	94.21	94.23	+0.02	94.24	94.20	67,274	491,351
Mar	94.06	94.11	+0.04	94.11	94.05	70,877	350,459
Jun	93.89	93.93	+0.03	93.94	93.88	38,418	257,958

■ US TREASURY BILL FUTURES (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Dec	94.77	94.79	+0.02	94.79	94.77	172	3,785
Mar	94.61	94.64	+0.03	94.64	94.61	15	1,520
Jun	-	94.46	-0.01	-	94.48	10	75

All Open interest figs. are for previous day

■ EUROMARK OPTIONS (LIFFE) DM1m points of 100%

Strike Price	CALLS Oct	Nov	Dec	Mar	PUTS Oct	Nov	Dec	Mar
9675	0.12	0.14	0.15	0.20	0	0.02	0.03	0.14
9700	0.01	0.02	0.03	0.08	0.14	0.15	0.16	0.27
9725	0	0	0	0.03	0.38	0.38	0.38	0.47

Est. vol. total, Calls 11963 Puts 2470. Previous day's open int., Calls 344054 Puts 259525

■ EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Dec	Mar	Jun	PUTS Dec	Mar	Jun
9850	0.06	0.13	0.13	0.17	0.32	0.52
9875	0.02	0.05	0.05	0.38	0.49	0.69

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 3958 Puts 1251

■ EUROLIRA OPTIONS (LIFFE) L1000m points of 100%

Strike Price	CALLS Dec	Mar	Jun	PUTS Dec	Mar	Jun
9225	0.23	0.68	0.90	0.21	0.14	0.14
9250	0.11	0.50	0.72	0.34	0.21	0.21
9275	0.05	0.35	0.55	0.53	0.31	0.29

Est. vol. total, Calls 9710 Puts 2478. Previous day's open int., Calls 79265 Puts 39148

BASE LENDING RATES

	%		%		%
Adam & Company	5.75	Cyprus Popular Bank	5.75	NatWestminster	5.75
Allied Trust Bank	5.75	Duncan Lawrie	5.75	●Rea Brothers	5.75
AIB Bank	5.75	Exeter Bank Limited	6.75	Royal Bk of Scotland	5.75
●Henry Ansbacher	5.75	Financial & Gen Bank	7.00	●Singer & Friedlander	5.75
Bank of Baroda	5.75	●Robert Fleming & Co	5.75	●Smith & Williamson Secs	5.75
Banco Bilbao Vizcaya	5.75	Girobank	5.75	Scottish Widows Bank	5.75
Bank of Cyprus	5.75	●Guinness Mahon	5.75	TSB	5.75
Bank of Ireland	5.75	Habib Bank AG Zurich	5.75	United Bank of Kuwait	5.75
Bank of India	5.75	●Hambros Bank	5.75	Unity Trust Bank Plc	5.75
Bank of Scotland	5.75	Heritable & Gen Inv Bk	5.75	Western Trust	5.75
Barclays Bank	5.75	●Hill Samuel	5.75	Whiteaway Laidlaw	5.75
Brit Bk of Mid East	5.75	C. Hoare & Co	5.75	Yorkshire Bank	5.75
●Brown Shipley & Co Ltd	5.75	Hongkong & Shanghai	5.75		
Citibank NA	5.75	Julian Hodge Bank	5.75		
Clydesdale Bank	5.75	●Leopold Joseph & Sons	5.75		
The Co-operative Bank	5.75	Lloyds Bank	5.75		
Coutts & Co	5.75	Midland Bank	5.75		
Credit Lyonnais	5.75	*Mount Credit Corp	6.00		

● Members of London Investment Banking Association

* In administration

COMMODITIES AND AGRICULTURE

Iran urges early return to market for Iraqi oil

By Robert Corzine

Iraqi oil exports should resume as soon as possible if they were not to disrupt world markets, according to Mr Gholamreza Aghazadeh, Iran's oil minister.

He said in London yesterday it would be in the best interests of the Organisation of Petroleum Exporting Countries for the resumption of Iraqi exports to coincide with the present period of high worldwide demand. Oil prices could be under pressure next year, he warned.

His comments coincided with increasing activity by United Nations officials to resurrect the UN oil-for-food plan that was suspended last month after President Saddam Hussein sent troops into Kurdish northern Iraq.

Commenting on the uncertain outlook for oil prices, Mr Aghazadeh said he did not see much scope for an increase in the production ceiling when Opec met in Vienna in late November.

But he confirmed that Iran had benefitted substantially from the recent oil price rise. So far this year it had achieved an average price of about $18 a barrel, well above the $15.50 budget estimate. That should add $2bn to the $16bn in annual oil revenues envisaged, he said.

The minister was upbeat about the prospects of Iran attracting more foreign investment into its oil and gas sector. But he said it would reject foreign investment proposals containing "unusual" conditions designed to avoid unilateral US sanctions on the Iranian oil and gas industry.

He expected such deals to be above board. They should not include any special conditions. "If [foreign] companies decide to work with us that means they have solved their problems on the outside."

New US legislation seeks to limit foreign oil companies from investing more than $40m in energy projects in Iran and Libya, two states Washington has accused of engaging in state terrorism.

The move prompted speculation that some companies keen to invest in Iran might try to do so through a series of subsidiaries or subterfuges to conceal the source of such funds.

Mr Aghazadeh, who in recent days has met executives from a number of international oil companies in Vienna, Paris and London, said many were prepared to "ignore" Washington's unilateral attempts to restrict Iran's vital oil industry.

He would not name individual companies, but he said the industry response had been "satisfactory", with one of the offshore development projects attracting 12 separate proposals from foreign companies.

Only Total of France in partnership with Petronas of Malaysia is currently investing in Iran's offshore sector, the one segment of its oil and gas industry open to direct foreign participation. But Mr Agazadeh predicted that additional deals would be announced "in the near future."

Meanwhile, in Luxembourg European Union foreign ministers yesterday decided to widen the scope of EU retaliatory measures planned to counter the effects of the unilateral US legislation aimed at the Libya and Iranian oil sectors.

Gold miners prepare for output boom

By Kenneth Gooding, Mining Correspondent, in Denver

Any doubt that an unprecedented gold production boom is on the way is being dispelled at the Denver Gold Group's annual Mining Industry Forum, where many of the world's big gold companies and some of the go-ahead exploration organisations are making presentations this week.

The procession of companies promising to double reserves and output within a few years is causing some analysts and producers concern about the impact on the gold price as supply threatens to catch up with demand.

The increase in gold output will be accompanied by a wave of mergers as managements attempt to build their companies to a size large enough to attract institutional investors, who prefer big companies with lots of tradeable shares.

This became clear on the first day of the forum, a day devoted mainly to smaller companies.

Examples of the expected rapid growth presented to the 350 delegates here came from some companies that did not even exist six years ago.

Among these was Royal Oak, the Canadian company, which produced 371,000 troy ounces of gold last year and confidently said here it would be a 1m ounces-a-year producer by 2000. Viceroy Resources, which in the spring acquired two other companies, Loki Gold and Baja Gold, has set itself an annual production target of 500,000 ounces by 2000. Last year it produced under 150,000. Resolute Samantha, which also did not exist five years ago but already is producing 250,000 ounces a year, expects this to rise to between 400,000 and 500,000 in two years time.

Granges is another company that faces dramatic change via acquisition. It is in the process of merging with De Capo Resources to form Vista Gold and expects to triple production to 300,000 ounces by 2000.

Later this week big companies such as Barrick Gold, already the largest producer outside South Africa, will tell delegates that it is sure of doubling annual output in the next ten years to more than 6m ounces while Placer Dome, another Canadian group, will explain how it intends to lift annual production from 2m to about 3m ounces by 2000.

"Every company is talking about doubling reserves and doubling production in the next few years. No wonder the gold price gets weaker when these events take place," said Mr Nick Hatch, analyst at Flemings Global Mining Group.

Ms Amy Gassman, analyst at Goldman Sachs, pointed out that not all the new production would come into the market at once and some of it would not come to market at all because it would not be able to find the necessary finance. Nevertheless, it did seem the industry was approaching another production boom and this would have an impact on market sentiment.

Mr Dennis Wheeler, chairman of Coeur d'Alene Mines, suggested that the coming jump in gold production during the next five years made the work of the World Gold Council, the promotional organisation financed by some producers, even more important. "We have to make sure that the demand is there to absorb the extra gold." The council's budget for this year was a healthy US$68m but it had set itself a future target of $75m, said Mr Wheeler.

This will not be easy to achieve. Gencor's gold division recently gave notice that it would leave the council, taking with it more than $2.5m of revenue. Mr Tom Dale, managing director of Gengold, said his company could not afford the contribution asked for by the council - $2.50 for every ounce produced. Other executives at this forum also said that, while they approved of most of the council's efforts on the industry's behalf, they could not justify or afford payment of this membership fee.

Copper prices slide further on LME

MARKETS REPORT

COPPER prices fell sharply on the London Metal Exchange yesterday after news of a hefty drop in exchange warehouse stocks failed to underpin the market. "Even with a solid fall in copper stocks prices fell," said an analyst. "It wasn't just copper but across the board."

The three months delivery position finished after hours "kerb" trading at the day's low of $1,890 a tonne, down $38 from Monday's close. The price had peaked at $1990 late last week.

Traders said price moves were again exaggerated by thin conditions overall.

Copper stocks were down another 7,825 tonnes on Tuesday, with traders attributing recent falls to arbitrage deals against Shanghai and Comex copper markets. Tight supplies of scrap and Russian copper in Europe also contributed, they added.

The bearish mood in copper soon spread to other markets, where investment funds and speculators liquidated long positions and adopted fresh short ones, traders said.

The three months

LME WAREHOUSE STOCKS
(As at Thursday's close)
tonnes

Aluminium	-950	to 961,725
Aluminium alloy	-560	to 82,620
Copper	-7,825	to 236,500
Lead	-1,050	to 117,975
Nickel	+192	to 40,980
Zinc	+1600	to 549,850
Tin	+20	to 10,285

ALUMINIUM price fell $10 to $1,367.50 a tonne, having hit a fresh 2¼-year low of $1,357 earlier in the day.

TIN followed the trend, with the three months position sinking to a 16-month low of $5,900 a tonne before bouncing to $5,975 by the close, still $45 down on balance.

At the London Bullion Market the GOLD price hit at an 18-month low in jittery trading before bouncing to finish little changed.

Robusta COFFEE futures values at the London International Financial Futures Exchange rebounded in the afternoon on firmer New York values but finished off their peaks on producer selling, traders said.

The spot November position's premium to second-position January widened on keen buying amid concerns over near-term supplies.

Traders said the late rebound after sleepy morning trading was also seen as a technical correction following Monday's sell-off. New York arabica prices were moderately firmer but just shy of key resistance toward midday. The market had opened higher, buoyed by an unexpectedly sharp drawdown from US certified stocks.

Figures released after the New York market closed on Monday showed a fall of 10,433 bags (60kg each) on the week to 31,669 bags – the lowest level in at least ten years, analysts said.

By the London close November robustas stood $15 higher at $1,503 a tonne, after first breaching immediate support at $1,488, then reversing and breaking above resistance at $1,500.

The next key hurdle is seen at $1,520 a tonne, while underlying support is identified at $1,471.

The November-January premium widened to touch a high of $62 before closing at $58 a tonne, up from Monday's finish of $49. The remaining months were $9 to $12 firmer.

Traders said origin selling was keeping a lid on the upside in London. On the downside, keen roaster interest was seen at the lows.

They said the US stock data, coming at the start of the 1996-97 South American harvest, could underpin prices and boost the New York December position's premium to the distant months.

Compiled from Reuters

Egypt expects cotton crop boost

By Sean Evers in Cairo

Egyptian cotton exporters have entered the international market for the 1996-97 season with an optimistic bounce, as farmers have begun to pick what is expected to be a bumper harvest and the government has relaxed state controls.

Mr Saeed Haggag, chairman of the Alexandria Cotton Exporters Association (Alcotexa) said last week: "The [export] amount this year is tremendous".

All varieties of Egypt's extra long staple and long staple are on offer to the world market this season, in contrast to last year, when only a small amount of ELS and no LS fibre was available for export.

The 1996-97 cotton harvest is estimated at 350,000 tonnes compared with 260,000 in 1995-96. Also available is 40,000 tonnes left over from last season. This should increase exports from 19,000 tonnes last year to at least 150,000 tonnes this season, as the domestic market will only absorb about 50 per cent of the total.

Alcotexa is hoping that this year's crop and recent reform's in the government's trade policy will win back international buyers.

After more than three decades of strict state controls, the Egyptian government liberalised its export restrictions in February. It will no longer divert the valuable long-staple varieties for use in the domestic textiles industry. Cotton exporters are now allowed to export all types of cotton, and spinning companies are permitted to import cheaper varieties of cotton from anywhere in the world.

Alexandria's revived Mina al-Basal cotton exchange last week registered its first trades since 1961.

Alcotexa, which groups 18 cotton exporters, set the season's opening export prices for nine varieties between 224 and 100 US cents a pound. ELS varieties are 46 to 48 cents below the 1995-96 crop opening prices, except for Giza 45, which has declined by only 13 cents. LS varieties are returning to the world market at between 135 and 100 cents a pound.

According to the Liverpool-based Cotton Outlook magazine, Egypt's decline in asking prices for the ELS varieties has been more pronounced than that of upland values since the 1995-96 season opening prices were announced in February.

Egypt can expect increased competition from US traders, who have responded to its opening offers by offering the comparable American Pima varieties at up to 7 cents less than Egypt's.

Mr Ahmed el-Guweili, Egypt's Minister of Trade and Supplies said E£400m ($120m) had been set aside for cotton subsidies. The government set a minimum price of E£500 for 50kg, equivalent to 133 US cents a pound, to encourage farmers to grow cotton after last year's disappointing season.

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE
(Prices from Amalgamated Metal Trading)

■ ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1330-31	1366-67
Previous	1348-49	1383-84
High/low	1325/1323	1371/1357
AM Official	1322-22.5	1356-56.5
Kerb close		1366-69
Open int.	219,150	
Total daily turnover	57,564	

■ ALUMINIUM ALLOY ($ per tonne)

Close	1190-200	1210-20
Previous	1205-15	1230-35
High/low		1220/1217
AM Official	1190-92	1210-12
Kerb close		1212-20
Open int.	5,164	
Total daily turnover	991	

■ LEAD ($ per tonne)

Close	748-49	754.5-55.0
Previous	758-9	762.5-3.5
High/low	741	759/745
AM Official	741-42	744-45
Kerb close		756-57
Open int.	38,904	
Total daily turnover	13,533	

■ NICKEL ($ per tonne)

Close	6915-25	7030-35
Previous	7000-10	7100-05
High/low	6905	7110/7000
AM Official	6906-07	7020-25
Kerb close		7005-10
Open int.	42,161	
Total daily turnover	20,479	

■ TIN ($ per tonne)

Close	5905-15	5975-80
Previous	5945-55	6010-20
High/low	5865/5860	6005/5900
AM Official	5861-62	5929-30
Kerb close		5975-80
Open int.	15,987	
Total daily turnover	6,381	

■ ZINC, special high grade ($ per tonne)

Close	994-95	1019-19.5
Previous	992.5-3.5	1018-19
High/low	991	1019/1015
AM Official	991-92	1015-16
Kerb close		1019-20
Open int.	73,088	
Total daily turnover	*19,587*	

■ COPPER, grade A ($ per tonne)

Close	1901.5-03.5	1907-08
Previous	1942-44	1943-44
High/low	1903	1933/1890
AM Official	1903-04	1910-12
Kerb close		1890-91
Open int.	179,035	
Total daily turnover	60,534	

■ LME AM Official £/$ rate: 1.5634
LME Closing £/$ rate: 1.5637

Spot: 1.5645 3 mths: 1.5634 6 mths: 1.5629 9 mths: 1.5625

■ HIGH GRADE COPPER (COMEX)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	88.75	-2.30	90.10	88.60	418	2,958
Nov	88.20	-2.15	88.20	88.20	65	1,744
Dec	87.85	-2.25	90.25	87.60	4,794	24,582
Jan	87.60	-2.20	88.80	88.10	33	1,227
Feb	87.35	-2.00	88.35	87.10	52	856
Mar	87.10	-1.85	88.30	86.80	544	9,199
Total					6,366	54,821

PRECIOUS METALS

■ LONDON BULLION MARKET
(Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	378.50-378.90		
Opening	377.70-378.10		
Morning fix	377.05	240.803	472.255
Afternoon fix	378.65	242.212	474.827
Day's High	378.90-379.30		
Day's Low	377.10-377.50		
Previous close	378.50-378.80		

Loco Ldn Mean Gold Lending Rates (Vs US$)
1 month ....3.44 6 months 3.30
2 months ....3.39 12 months 3.50
3 months 3.24

Silver Fix	p/troy oz.	US cts equiv.
Spot	309.80	484.75
3 months	313.85	490.80
6 months	317.70	496.75
1 year	326.15	509.55

Gold Coins	$ price	£ equiv.
Krugerrand	386-389	247-249
Maple Leaf	383.60-386.05	
New Sovereign	86-90	55-58

Precious Metals continued

■ GOLD COMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	378.1	+0.4	378.5	377.0	847	739
Dec	381.0	+0.5	381.5	379.0	23,183	111k
Feb	383.1	+0.6	383.4	381.8	1,282	14,146
Apr	385.2	+0.6	385.4	383.8	68	11,104
Jun	387.5	+0.6	387.4	387.1	40	11,534
Aug	390.0	+0.6	-	-	325	4,222
Total					25,840	185,485

■ PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	384.5	-0.1	388.0	384.0	2,679	1,681
Jan	387.3	+0.7	388.9	386.2	3,370	18,879
Apr	390.1	+0.6	391.5	390.0	410	7,260
Jul	393.1	+0.6	394.0	393.5	92	682
Oct	396.6	+0.6	399.0	397.0	25	37
Total					6,541	28,339

■ PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	120.50	+0.75	120.80	118.35	303	7,603
Mar	121.50	+0.85	121.25	121.15	25	193
Jun	122.65	+0.85	-	-	5	115
Total					336	7,911

■ SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	486.2	+3.3	483.0	480.0	28	16
Dec	491.0	+3.3	495.5	485.0	8,819	68,845
Jan	493.5	+3.2	-	-	2	26
Mar	498.4	+3.2	503.0	496.0	208	11,275
May	503.2	+3.1	506.0	503.0	15	6,405
Jul	508.1	+3.0	505.5	505.5	19	4,911
Total					9,093	98,110

ENERGY

■ CRUDE OIL NYMEX (1,000 barrels, $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Nov	24.36	-0.02	24.45	23.83	27,733	84,447
Dec	23.78	+0.01	23.86	23.30	18,853	65,626
Jan	23.23	+0.03	23.26	22.83	5,838	42,649
Feb	22.64	+0.04	22.65	22.30	2,063	27,858
Mar	22.03	-0.07	22.10	21.86	2,392	17,674
Apr	21.47	-0.22	21.47	21.47	1,250	14,091
Total					68,928	491,065

■ CRUDE OIL IPE ($/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Nov	23.21	-	23.25	22.67	20,558	50,860
Dec	22.75	+0.05	22.79	22.28	9,977	47,436
Jan	*22.22*	*+0.12*	*22.22*	*21.78*	*2,854*	*24,446*
Feb	21.58	+0.09	21.61	21.25	830	14,250
Mar	21.00	+0.13	21.00	20.67	2,097	14,342
Apr	20.25	-0.08	20.25	20.25	1,040	5,394
Total					38,808	172,233

■ HEATING OIL NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Oct	70.90	-	72.70	70.00	21,410	11,082
Nov	71.35	+0.60	71.70	69.80	23,434	44,515
Dec	70.20	+0.45	70.45	68.90	6,936	29,720
Jan	68.60	+0.45	68.90	67.50	3,134	22,722
Feb	66.30	+0.40	66.40	65.60	1,396	12,008
Mar	63.25	+0.55	63.25	62.00	605	6,418
Total					57,861	144,124

■ GAS OIL IPE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	236.25	+3.75	236.25	228.50	6,774	21,859
Nov	225.00	+1.75	225.75	220.00	5,497	17,392
Dec	216.75	+1.25	217.50	212.50	2,205	19,142
Jan	210.25	+2.00	210.25	205.50	1,643	13,157
Feb	201.00	+1.00	201.00	197.75	430	3,244
Mar	192.50	+1.50	193.00	189.50	458	3,761
Total					17,859	89,736

■ NATURAL GAS NYMEX (10,000 mmBtu.; $/mmBtu.)

	Latest price	Day's change	High	Low	Vol	Open int
Nov	2.200	-0.014	2.260	2.170	13,476	28,616
Dec	2.365	-0.019	2.410	2.355	3,850	20,810
Jan	2.390	-0.006	2.430	2.380	2,761	17,294
Feb	2.325	-0.001	2.355	2.320	1,007	9,940
Mar	2.220	+0.003	2.250	2.220	588	7,429
Apr	2.082	-	2.090	2.080	220	5,168
Total					23,726	130,845

■ UNLEADED GASOLINE
NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Oct	62.50	-	64.70	62.20	14,719	7,698
Nov	63.00	+0.74	63.10	61.30	14,055	24,327
Dec	62.55	+0.47	62.70	61.20	3,553	11,168
Jan	62.10	+0.42	62.20	61.15	1,031	8,269
Feb	62.00	+0.62	62.00	61.00	166	2,401
Mar	62.00	-	62.00	62.00	53	1,261
Total					33,682	56,159

GRAINS AND OIL SEEDS

■ WHEAT LIFFE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	103.45	-0.20	103.50	102.65	271	1,703
Jan	105.10	-0.30	105.10	104.40	166	2,110
Mar	106.60	-0.40	106.85	106.00	171	1,353
May	108.50	-0.50	108.75	108.00	16	1,025
Jul	110.50	-0.50	111.50	111.50	1	138
Total					629	6,339

■ WHEAT CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	433.75	-2.25	438.00	432.00	15,322	46,446
Mar	418.75	-3.75	425.50	418.50	3,536	14,441
May	396.25	-3.25	402.50	397.50	395	1,348
Jul	377.50	-1.25	380.00	377.00	617	6,086
Sep	381.00	-1.00	385.00	387.00	-	115
Dec	386.00	-2.00	390.00	391.00	-	94
Total					19,873	68,570

■ MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	296.00	-0.75	299.25	292.50	60,634	179,351
Mar	303.00	-1.00	306.75	300.25	15,940	67,524
May	309.00	-1.75	312.75	307.00	6,544	30,550
Jul	311.75	-2.25	315.25	310.00	8,154	23,088
Sep	297.00	-1.00	300.00	298.00	435	2,847
Dec	289.00	-0.50	291.00	287.50	3,222	15,528
Total					92,988	319,285

■ BARLEY LIFFE (£ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	*100.80*	*-0.20*	*100.75*	*100.25*	*109*	*952*
Jan	101.80	-0.20	102.00	101.50	26	716
Mar	103.30	-0.20	104.25	104.25	-	181
May	104.80	-0.20	104.50	104.50	10	80
Total					145	1,929

■ SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	749.25	-8.75	756.00	744.00	65,913	108,847
Jan	757.25	-9.75	764.50	753.00	11,164	31,936
Mar	765.50	-8.25	772.00	760.00	4,349	16,624
May	766.75	-10.50	773.00	761.50	2,221	15,031
Jul	768.25	-9.25	774.00	764.00	2,798	12,336
Aug	761.50	-10.00	761.00	760.00	38	282
Total					88,180	190,818

■ SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	23.95	+0.09	24.04	23.53	4,898	3,997
Dec	24.27	+0.08	24.45	23.85	24,750	51,761
Jan	24.57	+0.10	24.71	24.16	4,204	11,817
Mar	24.92	+0.05	25.09	24.55	3,055	12,828
May	25.24	-0.03	25.35	24.85	1,554	7,672
Jul	25.50	-0.10	25.70	25.25	535	1,719
Total					39,901	91,521

■ SOYABEAN MEAL CBT (100 tons; $/ton)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	248.9	-5.6	254.5	248.7	12,311	13,991
Dec	245.8	-3.9	249.0	245.5	28,394	43,766
Jan	245.2	-3.0	248.0	244.8	3,113	9,724
Mar	243.5	-2.3	246.0	243.1	3,519	12,475
May	240.8	-2.2	243.0	240.5	1,786	7,967
Jul	240.8	-1.9	242.0	239.0	286	3,211
Total					49,428	92,848

■ POTATOES LIFFE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	35.0	-2.5	35.0	35.0	-	-
Mar	73.0	-2.5	-	-	-	-
Apr	73.0	+1.3	73.5	72.0	65	1,309
May	81.0	+1.3	-	-	-	17
Jun	89.5	+1.3	-	-	-	-
Total					67	1,326

■ FREIGHT (BIFFEX) LIFFE ($10/index point)

	Sett price	Day's change	High	Low	Vol	Open int
Sep	996	+1	995	995	1	773
Oct	1115	-10	1125	1111	242	1,680
Nov	1185	-5	1195	1180	70	509
Jan	1215	-	1225	1210	207	1,269
Apr	1231	-	-	-	-	497
Jul	1095	-	1095	1095	25	97
Total					572	4,123

	Close	Prev
BFI	1003	1000

SOFTS

■ COCOA LIFFE (£/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Sep	966	+19	976	968	127	131
Dec	973	-13	982	970	1,571	32,804
Mar	998	-13	1008	998	1,753	38,840
May	1013	-9	1021	1012	445	20,781
Jul	1027	-9	1035	1027	93	11,287
Sep	1041	-10	1052	1052	49	3,785
Total					4,344	132,857

■ COCOA CSCE (10 tonnes; $/tonnes)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	1360	-17	1371	1358	3,830	30,589
Mar	1390	-15	1401	1388	1,627	17,696
May	1410	-13	1416	1410	51	8,132
Jul	1426	-14	1428	1425	39	6,122
Sep	1445	-15	1450	1445	234	5,671
Dec	1489	-15	-	-	5	664
Total					5,766	77,380

■ COCOA (ICCO) (SDR's/tonne)

Sep 30	Price	Prev. day
Daily	1035.26	1037.90

■ COFFEE LIFFE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Sep	1488	-67	1555	1521	113	262
Nov	1503	+15	1506	1486	1,671	14,601
Jan	1444	+11	1448	1430	1,308	7,361
Mar	*1407*	*+9*	*1414*	*1390*	*577*	*4,058*
May	1390	+10	1395	1380	243	1,567
Jul	1385	+10	1388	1388	8	232
Total					3,819	27,866

■ COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	104.75	+1.80	105.60	103.50	6,072	14,050
Mar	100.60	+1.10	101.50	99.90	1,407	5,254
May	100.70	+1.35	101.30	99.90	134	2,090
Jul	100.25	+0.30	100.50	100.25	10	769
Sep	100.95	+1.30	100.95	100.95	1	230
Dec	101.00	+1.00	101.50	101.00	2	298
Total					7,629	22,689

■ COFFEE (ICO) (US cents/pound)

Sep 30		Prev. day
Comp. daily	93.48	94.70
15 day average	95.34	95.73

■ WHITE SUGAR LIFFE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Dec	322.6	-2.0	325.8	321.5	1,085	11,257
Mar	319.1	-2.7	322.5	318.3	638	9,683
May	318.7	-3.4	322.0	319.0	395	4,120
Aug	320.5	-4.6	324.6	320.0	467	1,287
Oct	314.3	-4.4	318.0	315.0	12	856
Dec	316.5	-4.7	321.0	319.0	9	298
Total					2,674	27,878

■ SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	11.47	+0.43	11.55	11.12	6,220	6,379
Mar	10.78	-0.11	10.93	10.76	16,291	85,507
May	10.73	-0.09	10.84	10.72	3,386	23,640
Jul	10.60	-0.06	10.68	10.60	2,634	16,590
Oct	10.59	-0.08	10.67	10.57	1,825	10,069
Mar	10.52	-0.04	10.60	10.56	468	2,730
Total					28,421	143,069

■ COTTON NYCE (50,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Oct	75.20	+0.42	75.15	74.80	124	753
Dec	76.16	+0.48	76.19	75.40	7,378	30,108
Mar	77.35	+0.45	77.40	76.55	692	10,048
May	78.00	+0.45	78.00	77.50	396	6,069
Jul	78.50	+0.45	78.25	77.90	134	4,841
Oct	78.40	+0.20	78.40	77.90	22	1,000
Total					8,862	57,458

■ ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Nov	110.05	-5.10	115.25	110.00	1,570	7,040
Jan	106.50	-2.30	109.00	106.20	310	6,023
Mar	108.25	-2.40	110.25	108.25	79	2,813
May	111.00	-1.30	111.00	110.00	29	670
Jul	112.25	-2.05	114.70	114.10	79	324
Sep	113.25	-2.05	-	-	-	234
Total					2,039	17,195

MEAT AND LIVESTOCK

■ LIVE CATTLE CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Oct	73.625	+0.300	73.950	73.550	5,817	23,630
Dec	68.075	-0.075	68.475	68.000	7,543	36,749
Feb	65.100	+0.200	65.300	64.950	1,940	16,694
Apr	66.575	+0.150	66.700	66.425	522	8,209
Jun	64.125	+0.050	64.350	64.100	269	3,818
Aug	64.025	+0.025	64.225	64.025	196	4,212
Total					16,130	93,734

■ LIVE HOGS CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Oct	57.825	+0.100	58.000	57.450	2,983	6,108
Dec	57.275	-0.025	57.750	57.100	5,073	16,893
Feb	77.550	+0.025	77.725	77.250	1,624	5,535
Apr	72.925	-0.425	73.475	72.750	519	2,315
Jun	77.300	-0.350	77.600	76.950	220	2,596
Jul	74.100	-0.550	74.500	73.950	151	562
Total					10,718	34,495

■ PORK BELLIES CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Feb	78.375	+0.250	78.950	78.750	1,726	4,764
Mar	78.400	+0.300	78.900	76.850	158	905
May	79.750	+0.200	79.900	78.000	55	315
Jul	79.700	+0.100	79.750	79.700	11	132
Aug	78.350	+0.350	78.000	78.000	2	27
Total					1,945	6,143

LONDON TRADED OPTIONS

Strike price $ tonne — Calls — — Puts —

■ ALUMINIUM (99.7%) LME	Nov	Feb	Nov	Feb
1300	61	105	11	22
1400	12	48	61	63
1500	1	18	149	131
■ COPPER (Grade A) LME	**Nov**	**Feb**	**Nov**	**Feb**
1800	123	158	28	73
1900	64	107	69	120
2000	*29*	*69*	*133*	*180*
■ COFFEE LIFFE	**Nov**	**Jan**	**Nov**	**Jan**
1500	38	62	35	118
1550	19	46	66	152
1600	8	35	105	191
■ COCOA LIFFE	**Dec**	**Mar**	**Dec**	**Mar**
975	35	61	37	38
1000	25	49	52	51
1025	18	39	70	66
■ BRENT CRUDE IPE	**Nov**	**Dec**	**Nov**	**Dec**
2200	94	-	16	82
2250	61	-	*21*	*108*
2300	-	96	65	-

LONDON SPOT MARKETS

■ CRUDE OIL FOB (per barrel)

		+or-
Dubai	$21.06-1.08	+0.080
Brent Blend (dated)	$23.12-3.25	-0.070
Brent Blend (Nov)	$23.20-3.23	-0.070
W.T.I.	$24.35-4.39	-0.030

■ OIL PRODUCTS NWE prompt delivery CIF (tonne)

Premium Gasoline	$214-216	-2.5
Gas Oil	$239-241	+3
Heavy Fuel Oil	$112-114	+0.5
Naphtha	$219-221	+3.5
Jet fuel	$273-275	+4.5
Diesel	$255-257	

■ NATURAL GAS (Pence/therm)

Bacton (Nov)	13.80-4.10	-0.10

Petroleum Argus. Tel. London (0171) 359 8792

■ OTHER

Gold (per troy oz)♣	$378.70	+0.05
Silver (per troy oz)♣	490.50c	+3.00
Platinum (per troy oz.)	$383.00	
Palladium (per troy oz.)	$118.75	
Copper	98.0c	
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	14.88r	
Tin (New York)	276.50	-5.00
Cattle (live weight)	94.74p	-0.63*
Sheep (live weight)	114.78p	+0.74*
Pigs (live weight)†	106.53p	-2.50*
Lon. day sugar (raw)	$283.90	+5.70
Lon. day sugar (wte)	$322.80	-8.70
Barley (Eng. feed)	107.75	
Maize (US No3 Yellow)	Unq	
Wheat (US Dark North)	Unq	
Rubber (Nov)♥	85.50p	
Rubber (Dec)♥	85.50p	
Rubber (KL RSS No1)	314.0v	-1.0
Coconut Oil (Phil)§	$737.5z	-7.5
Palm Oil (Malay.)§	$502.5x	
Copra (Phil)§	$448.0z	-22.0
Soyabeans (US)	221.0	-4.0
Cotton Outlook 'A' index	75.85	-0.10
Wooltops (64s Super)	420p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. x Oct. z Sep/Oct ♥ London Physical. § CIF Rotterdam. ♣ Bullion market close. * Change on week. †Based on 4,587 head of pigs sold.

FUTURES DATA
All futures data supplied by CMS.

Minor Metals
European free market, from Metal Bulletin. $ per lb in warehouse, unless otherwise stated (last week's in brackets, where changed). Antimony: 99.6%, $ per tonne, 2,350-2,450 (2,425-2,525). Bismuth: min. 99.99%, tonne lots 3.30-3.70. Cadmium: min. 99.95%, 90-95 (95-100) cents a pound. Cobalt: MB free market, 99.8%, 22.50-23.00 (23.00-23.80); 99.3%, 21.50-21.90 (22.10-22.70). Mercury: min. 99.99%, $ per 76 lb flask, 162-172. Molybdenum: drummed molybdic oxide, 4.15-4.65 (4.00-4.40). Selenium: min 99.5%, 3.00-4.20. Tungsten ore: standard min. 65%, $ per tonne unit (10kg) WO_3, cif, 45-55. Vanadium: min. 98%, cif, 3.08-3.20. Uranium: Nuexco exchange value, 15.50.

VOLUME DATA
Open Interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open Interest totals are for all traded months.

INDICES

■ REUTERS (Base: 18/9/31=100)

Oct 1	Sep 30	month ago	year ago
1882.7	1892.5	1962.0	2088.4

■ CRB Futures (Base: 1967=100)

Sep 30	Sep 27	month ago	year ago
245.63	246.64		-

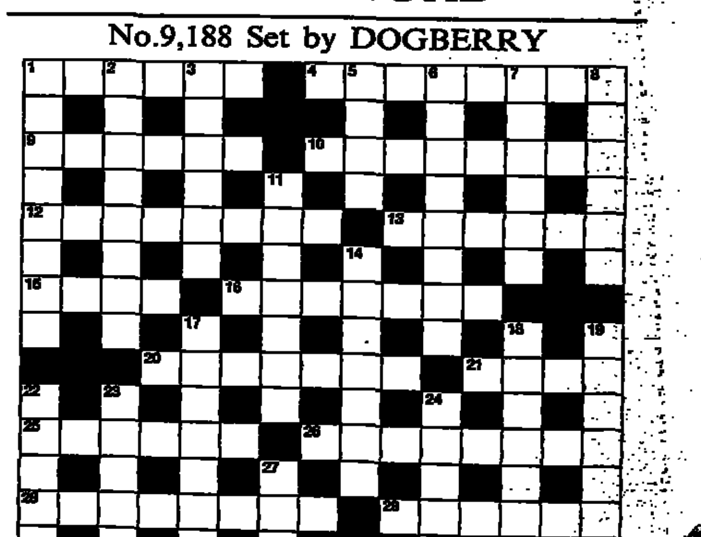
■ GSCI Spot (Base: 1970=100)

Sep 30	Sep 27	month ago	year ago
205.22	206.18	198.52	181.08

JOTTER PAD

CROSSWORD

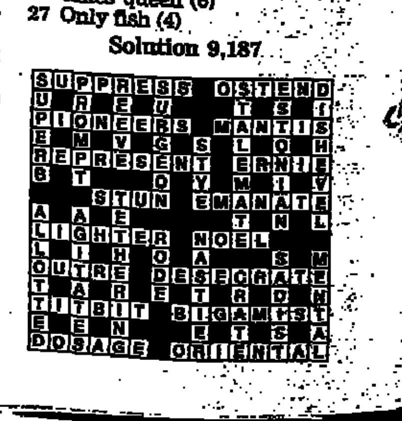
No.9,188 Set by DOGBERRY



ACROSS
1 Dogsbody at the beginning of Dickens' Barnaby (6)
4 Soft stretcher is hot and salty (8)
9 Seat that's divine in auction (6)
10 Sparkling compiler's captivated by poet (8)
12 Plant making birds sound like cats, almost (8)
13 Returning a manuscript – a record of vital fluid (6)
15 One to turn king into operatic prince (4)
16 Churchman before *and* after time (7)
20 Funny place to find weasel (7)
21 Sport on river (4)
25 Sexless retinue gutted and confused (6)
26 Stack playwright in carriage (8)
28 Geographer making cart more unstable (8)
29 Struggled to get right into the cooker (6)
30 Edward holds pigment to be finite (8)
31 Officer entering craft gets silver (6)

DOWN
1 Record many intend to deny (8)
2 One's at a disadvantage when poorly grounded (8)
3 Look into wound and see a shoe (6)
5 Line story-teller upheld (4)
6 Vie to introduce beginner at finish (8)
7 One is one without charge (6)
8 Bray at ambassador – what a woman! (6)
11 Fourth to show mercy (7)
14 Able to jump in where entertainment's cheap (4-3)
17 Wet way to upbraid (8)
18 Usurp non-worker accepting the alternative (8)
19 Cow on top of bass line's rhythm (8)
22 Taking no money for part of sundial (6)
23 Adequate number asking "Whither Classical spirit?" (6)
24 One on ice in card game takes queen (6)
27 Only fish (4)

Solution 9,187



FT MANAGED FUNDS SERVICE

Offshore Funds

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

BERMUDA (REGULATED)(**)

GUERNSEY (SIB RECOGNISED)

M & G (Guernsey) Ltd

Prudential Fund Managers (Guernsey) Ltd

Rothschild Asset Management (CI) Ltd

Sandi International (Guernsey) Ltd

Schroder Investment Mngmt (Guernsey) Ltd

Stalnes Fund Managers (Guernsey) Ltd

UBK Asset Management (Guernsey) Ltd

IRELAND (SIB RECOGNISED)

GUERNSEY (REGULATED)(**)

LGT Asset Management Ltd - Contd.

AIG Asset Management Ltd

AON International Funds Plc

Argenta European Hedge Fund plc

Asia Dynamic Growth Fund Plc

Asia Small Cos Growth Fund (u)

Asian Diversified Equity Fund Plc

Hambros Fund Managers (Ireland) Ltd

Hanson Ireland Ltd

Hanmi Korea Venture Fund

Investec Asset Management (Ireland) Ltd

Trainer Wortham & Company Inc

Ulster Bank Investment Services

Value Express Fund Plc

Yamaichi Samsung Dynamic Korea Fund

Yellow Sea Investment Company PLC

ISLE OF MAN (SIB RECOGNISED)

ISLE OF MAN (REGULATED)(**)

IRELAND (REGULATED)(**)

JERSEY (SIB RECOGNISED)

Newton Fund Mgrs - Contd.

Prudential Fund Managers (Jersey) Ltd

Royal Bank of Scotland Fd Mgrs (Jersey) Ltd

JERSEY (REGULATED)(**)

Offshore Funds and Insurances

FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

LUXEMBOURG (SIB RECOGNISED)

ABN AMRO Funds (u)
4 Rue Jean Monet, L-2180 Luxembourg 352 424848330

	Selling Price	Buying Price	+ or -	Yield Gr's
Latin America Equity	$48.17	48.89	—	-
North America Equity	$77.54	77.93	—	-
Asian Tigers Equity	$61.33	61.84	—	-
Europe Equity	$70.59	70.94	—	-
Germany Equity	[illegible]	131.88	—	-
Japan Equity	$50.05	50.56	—	-
Europe Bond	[illegible]	60.37	—	-
US Bond	$59.07	60.16	—	-
Global Bond	$60.06	60.21	—	-
Germany Bond B	[illegible]	108.18	—	-
Spain Bond	[illegible]	[illegible]	—	-
Eastern Europe Equity F	[illegible]	185.45	—	-
China Equity F	354.6	55.67	—	-
Switzerland Equity	[illegible]	121.55	—	-

Abtrust Fund Managers Luxembourg SA (u)
4 Boulevard Royal L 2449 Luxembourg 00 352 227001

Abtrust Atlas Fund

	Selling Price	Buying Price	+ or -	Yield Gr's
Global Cap Portfolio	$3.727		+0.008	-
United States Portfolio	$5.259		+0.018	-
Contl Europe Portfolio	[illegible]		-0.012	-
Japan Portfolio	[illegible]		—	-
Pacific Portfolio	$5.579		+0.018	-

Fidelity Funds - Contd.

Country Select Funds

	Selling Price	+ or -	Yield Gr's
ASEAN	$21.61	+0.31	-
Asian Special Situations	$11.04	+0.14	-
Australia	A$19.40	+0.16	1.30
Emerging Markets	[illegible]	-0.006	-
European Sm Cos F	DM13.15	—	-
France	FFr84.42	+0.44	-
Germany	DM20.74	-0.08	-
Hong Kong	$47.45	+0.51	0.81
Iberia	Pta1803	+6	-
Indonesia	$10.14	-0.02	-
Italy	L14823	+27	-
Japan Smllr Cos	Y1092	+4	-
Korea F	$8.792	-0.114	-
Latin America	$8.487	-0.014	0.54
Malaysia	$34.28	+0.05	-
Nordic	SKr179.8	+0.7	-
Singapore	$23.19	+0.09	-
Switzerland	SFr14.84	+0.11	-
Thailand	$33.47	+1.60	-
United Kingdom	£1.127	+0.001	-

Bond Funds

	Selling Price	+ or -	Yield Gr's
European	Ecu11.04	+0.01	6.02
International	$1.039	-0.001	5.59
US Dollar	$5.554	+0.002	5.75
Sterling	£0.252	—	7.20
Yen	Y1839	-2	2.52

Mercury Asset Management S.A. - Contd.

	Selling Price	Buying Price	+ or -	Yield Gr's
Global Equity	$90.05	71.84	+0.37	0.00
Emerging Markets	$11.87	12.29	+0.01	0.00
Gold & Mining	$10.85	11.10	-0.17	0.00
Australian & New Zealand	$24.46	25.76	-0.31	0.00
Eastern European	[illegible]	40.45	-0.18	0.00
European	$39.41	41.30	+0.41	0.00
Japan	$21.40	22.84	-0.04	0.00
Latin American	[illegible]	9.80	+0.03	0.00
North American	$42.30	44.84	+0.17	0.00
Pacific	$19.23	20.26	-0.03	0.00
Singapore & Malaysian	$29.08	30.80	+0.04	0.00
United Kingdom	$39.06	41.12	+0.40	0.00
Asian Opps	$27.12	28.55	+0.05	0.00
European Opps	$31.43	33.08	+0.08	0.00
Global Opps	$11.44	12.08	—	0.00
Japan Opps	$18.40	19.47	-0.08	0.00
North American Opps	$45.42	47.82	+0.15	0.00
United Kingdom Opps	£18.22	19.19	+0.05	0.00
DM Reserve	[illegible]	112.29	—	0.00
Dollar Reserve	$105.14	105.15	+0.01	0.00
Sterling Reserve	£113.81	115.82	—	0.00
Swiss Franc Reserve	[illegible]	107.88	-0.02	0.00

Aetna International Umbrella Fund - Contd.

Specialist Funds

	Selling Price	Buying Price	+ or -	Yield Gross
American Smaller Cos	$7.58		+0.03	1.38
Emerging Asia	$5.88		+0.04	-
Emerging Europe	$9.95		+0.06	1.10
Latin American	$4.34		—	9.35
UK Smaller Cos	£9.94		+0.03	2.53

Bond Funds

	Selling Price	Buying Price	+ or -	Yield Gross
Australian $ Bond	A$5.15		[illegible]	0.00
Canadian $ Bond	C$5.98		[illegible]	5.98
Deutschemark Bond	DM5.02		[illegible]	4.53
Mngd European Bd	$5.83		[illegible]	5.12
Sterling Bond	£5.82		[illegible]	5.58
US Dollar Bond	$5.18		-0.09	5.36
Yen Bond	Y358		-3	2.81

Reserve Funds

	Selling Price	Buying Price	+ or -	Yield Gross
Deutschemark Res	DM1.00		—	2.00
Sterling Reserve	£1.00		—	5.08
US Dollar Res	$1.00		—	3.78
Yen Reserve	Y100.00		—	-

Prices quoted are 'A' shares

Alliance Capital

Credis Investment Funds - Contd.

[illegible]

OFFSHORE INSURANCES

[illegible]

LUXEMBOURG (REGULATED)(**)

[illegible]

FT MANAGED FUNDS SERVICE

Offshore Insurances and Other Funds

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

	Selling Price	Buying Price	+ or -	Yield Gross
USS Floating Rate Fund Ltd				
Class B	$2.06		—	-
Class C	$2.06		--	-
Ultra Cerberus Fund Ltd				
Fund Advisors Ltd Aug 31	$1615.73		--	-
Ultra China Fund				
Fund Advisors Ltd Jul 30	$1041.59		-	-
Ultra Futures Fund Ltd				
Fund Advisors Ltd Aug 31	$10881.71			-
Ultra Hermes Fund				
Fund Advisors Ltd May 31	$1044.64		-	-
Ultra Interest Plus Fund				
Fund Advisors Class A Aug 31	$1116.11		-	-
Fund Advisors Class B Aug 31	$1092.43		--	-
Ultra Sector Fund Ltd				
Fund Advisors Ltd Aug 31	$1467.39		—	-
Ultra Westcliff Fund Ltd				
Fund Advisors Ltd Aug 31	$1582.07			-
Unibanco–Uniao de Bancos Brasileiros S.A				
Umbrella Debt	$218.81			-
Unibond Ltd Class A	$1166.408845			-
Unibond Ltd Class B	$1372.568585			-
Columbus Active				-
Union Bancaire Privee Geneve				
CBI Intercontinental	SFr209.05		-	-
Value Partners Fund				
'A' Shares Sep 24	$20.74		--	-
'B' Shares Sep 24	$10.07		—	-
Valu–Trac Investment Management Ltd				
Valu–Trac Global Bd Tst	$27.57	29.02	-	-
Valu–Trac Global Eqty Tst	$10.63	11.20	--	-
Vantage Investment Management Ltd				
Vantage Global Invest	$97.35	98.34	-	-
The Vietnam Frontier Fund				
Frontier Fund Management Co				
NAV (Fully Paid) Aug 31	$12.21			-
The Vietnam Fund Limited				
Lloyds Bank Fund Management (Guernsey) Ltd				
NAV Fully Paid Aug 30	$11.29		--	-
For Wells Fargo US IT see EZW Invest US IT				
Worldwide Limited				
NAV Aug 31	$75.58		--	-
Xiphias International Investment Fd Ltd				
Xiphias Global Growth	$10.23		--	-
Xiphias Inf ECU Acc	Ecu1 4009		--	-
Zanett Lombardier Ltd				
NAV Aug 31	$195.27		--	-
Zulauf Investment Managment AG				
Zulauf Europe Ltd NAV Sep 27	DM109.350		--	-
Zweig–DiMenna International Limited				
NAV Aug 30	$153.22		--	-

● MANAGED FUNDS NOTES

Prices are in pence unless otherwise indicated and those designated $ with no prefix refer to U.S. dollars. Yields % allow for all buying expenses.
Prices of certain older insurance linked plans subject to capital gains tax on sales.
(*) Funds not SIB recognised. The regulatory authorities for these funds are:
Bermuda - Bermuda Monetary Authority
Guernsey - Financial Services Commission
Ireland - Central Bank of Ireland
Isle of Man - Financial Supervision Commission
Jersey - Financial Services Department
Luxembourg - Institut Monetaire Luxembourgeois
Initial charge - Charge made on sale of units.
Selling price - Bid or redemption price
Buying price - Offer or issue price
Time - The time shown alongside the fund manager's name is the time of the fund's valuation point unless indicated by one of the following symbols:
(●) 0001 to 1100 hours
(◆) 1101 to 1400 hours
(▲) 1401 to 1700 hours
(♦) 1701 to midnight
E Exit charge on sale of units.
C Manager's periodic charge deducted from capital.
H Historic pricing F - Forward pricing.
n Distribution free of UK taxes.
p Periodic premium insurance plans.
s Single premium insurance.
x Designated as a UCITS (Undertakings for Collective Investment in Transferable Securities).
t Offered price includes all expenses except agent's commission.
y Previous day's price.
¶ Guernsey gross.
◆ Yield before Jersey tax.
† Ex-subdivision.
‡ Only available to charitable bodies.

The fund prices published in this edition are also available on the Financial Times web site, http://www.FT.com

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

BANKS, MERCHANT

BANKS, RETAIL

BREWERIES, PUBS & REST

BUILDING & CONSTRUCTION

BUILDING MATS. & MERCHANTS

CHEMICALS

CHEMICALS - Cont.

DISTRIBUTORS

DIVERSIFIED INDUSTRIALS

ELECTRICITY

ELECTRONIC & ELECTRICAL EQPT

ELECTRONIC & ELECTRICAL EQPT - Cont.

ENGINEERING

ENGINEERING - Cont.

ENGINEERING, VEHICLES

EXTRACTIVE INDUSTRIES

EXTRACTIVE INDUSTRIES - Cont.

FOOD PRODUCERS

FOOD PRODUCERS - Cont.

GAS DISTRIBUTION

HEALTH CARE

HOUSEHOLD GOODS

HOUSEHOLD GOODS - Cont.

INSURANCE

INVESTMENT TRUSTS

INVESTMENT TRUSTS - Cont.

INV TRUSTS SPLIT CAPITAL

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

LEISURE & HOTELS - Cont.

LIFE ASSURANCE

MEDIA

PAPER, PACKAGING & PRINTING - Cont.

PHARMACEUTICALS

PROPERTY

RETAILERS, FOOD

RETAILERS, GENERAL

SUPPORT SERVICES

TELECOMMUNICATIONS - Cont.

TEXTILES & APPAREL

TOBACCO

TRANSPORT

AIM - Cont.

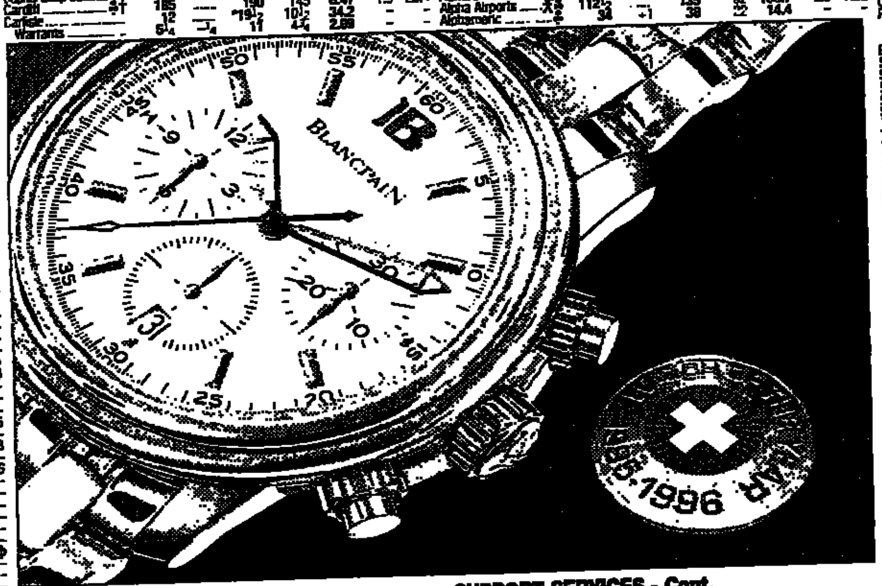
AMERICANS

CANADIANS

OTHER INVESTMENT TRUSTS

INVESTMENT COMPANIES

OIL EXPLORATION & PRODUCTION



PROPERTY - Cont.

SUPPORT SERVICES - Cont.

WATER

AIM

OIL, INTEGRATED

OTHER FINANCIAL

LEISURE & HOTELS

PAPER, PACKAGING & PRINTING

TELECOMMUNICATIONS

SOUTH AFRICANS

	Notes	Price	+ or -	52 week high	52 week low	Mkt Cap£m	Yld Gr's	P/E
Anglo Am Ind	G	£23½xd	[illegible]	£34½	£22½	1,570	3.3	Φ
Barlow	♣†	58¼	[illegible]	£10½	55¼	1,261	2.1	-
Gold Flds Prop R		137xa	—	170	120	14.0	5.2	10.8
NK Props		60	—	86	60	2.41	15.0	-
SASOL	♥	645	—	710	475	3,777	1.7	-
SA Brews		£16½	—	£26½	£16¼	4,858	2.1	Φ
Standard Bank		£28½	[illegible]	£32¾	£21¼	3,118	1.4	22.6
Tiger Oats	†	780	—	1270	770	1,188	2.0	16.4
Tongaat-Hulett		780xd	—	1247	735	747.8	2.2	Φ

GUIDE TO LONDON SHARE SERVICE

Prices for the London Share Service delivered by Extel, part of Financial Times Information.

Company classifications are based on those used for the FTSE Actuaries Share Indices

Closing mid-prices are shown in pence unless otherwise stated. Highs and lows are based on intra-day mid-prices over a rolling 52 week period

Where stocks are denominated in currencies other than sterling, this is indicated after the name

Symbols referring to dividend status appear in the notes column daily as a guide to yields and P/E ratios. Dividends and Dividend covers are published on Monday.

Market capitalisation shown is calculated separately for each line of stock quoted.

Earnings used in calculations are based on IIMR 'Headline Earnings' formula.

Price/earnings ratios are based on latest annual reports and accounts and, where possible, are updated on interim figures

Yields are based on mid-prices, are gross, adjusted for a dividend tax credit of 20 per cent and allow for value of declared distribution and rights.

Estimated Net Asset Values (NAVs) are shown for Investment Trusts, in pence per share, along with the percentage discounts (Dis) or premiums (Pm -) to the current closing share price. The NAV basis assumes prior charges at par value, convertibles converted and warrants exercised if dilution occurs.

- • Highs and lows marked thus have been adjusted to allow for capital changes
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- Φ Figures or report awaited
- ♥ Rule 2.1(a)(v) Overseas Incorporated companies listed on an approved exchange.
- ♣ Free annual/interim report available, see details below
- ☆ USM, not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- ‡‡ Rule 4.2(a) Irish Incorporated non-listed companies.
- # Price at time of suspension
- ¶ Indicated dividend yield after pending scrip and/or rights issue
- ♦ Merger bid or reorganisation in progress
- § Forecast dividend yield, p/e based on earnings updated by latest interim statement.
- ♠ Unregulated collective investment scheme.

a Yield based on annualised dividend
b Figures based on prospectus or other official estimates.
g Assumed dividend yield after rights issue.
h Assumed dividend yield after scrip issue.
n Rights issue pending
q Earnings based on preliminary figures.
s Dividend yield excludes a special payment.
t Indicated dividend yield, p/e ratio based on latest annual earnings.
u Forecast, or estimated annualised dividend yield, p/e based on previous year's earnings.
z Dividend yield includes a special payment

F Yield based on prospectus or other official estimates for 1996-97.
G Assumed yield after pending scrip and/or rights issue.
H Yield based on prospectus or other official estimates for 1995.
K Yield based on prospectus or other official estimates for 1996
L Estimated annualised yield, p/e based on latest annual earnings.
M Yield based on prospectus or other official estimates for 1995-96.
R Dividend is paid in whole or part as a

FID (Foreign Income Dividend)
R Forecast annualised yield, p/e based on prospectus or other official estimates.
W Pro forma figures
Z Dividend yield to date.

Abbreviations:
xd ex dividend.
xc ex scrip issue.
xr ex rights.
xa ex all.
☆ ex capital distribution.

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £1350 a year for each security shown, subject to the Editor's discretion

♣ FT Free Annual Reports Service

You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT3078. Ring 0181 770 0770 (open 24 hours including weekends) or Fax 0181 770 3822. Reports will be sent the next working day, subject to availability.

☆ FT Company Focus / Focus Plus

Comprehensive 10-18 page report available on this company, containing key news stories from the last year, latest survey of City profit forecasts and investment recommendations, 5 year financial and share price performance review, balance sheet and profit and loss data, plus recent Stock Exchange announcements.
Company Focus (FT news) £8.45.
Focus Plus (FT and Investors Chronicle news) £10.95.
To order, call 0121 200 4678.
Reports published by ShareFinder Ltd.

FT Cityline

Up-to-the-second share prices are available by telephone from the FT Cityline service. See Monday's share price pages for details.

An international service is available for callers outside the UK, annual subscription £250 stg

Call 0171 873 4378 for more information on FT Cityline.

For readers phoning from outside UK, please dial +44 in place of the first 0.

The share prices printed on these pages are also available on the internet at http://www.FT.com.

FTSE 100 poised to drive through 4,000 level

MARKET REPORT

By Steve Thompson, UK Stock Market Editor

The upside momentum behind London stocks built up strongly during the last hour of trading yesterday with the FTSE 100 index accelerating at such a pace as to look like threatening the 4,000 level at one point.

Although failing by less than eight points to run through 4,000, the FTSE 100 still managed to reach a new peak of 3,992.2, up 38.5, as the first trading session of the fourth quarter saw the big domestic and overseas institutions pour cash into the market.

Second-line stocks were somewhat overshadowed by the leaders, but managed to record good gains across the board, lifting the FTSE 250 index 18.7 to 4,409.8. The FTSE SmallCap underperformed, however, ending the session only 4.2 ahead at 2,171.3.

Senior marketmakers insisted, however, that the FTSE 100 was poised to cruise through the 4,000 barrier at the outset this morning, "given a reasonable showing by the Dow and US Treasury bond market". After hours trading in the FTSE future indicated an opening level of almost exactly 4,000.

The influx of new money into the market was first felt in the FTSE future which was always in strong demand and traded at a big premium to the underlying cash market throughout the session.

Although always well supported during the early part of the day, the stock market staged a determined dash just before the close with dealers reporting evidence of a substantial trading programme, heavily weighted on the buy side.

The programme was said to have involved the purchases of large lines of stock in Legal & General, Barclays Bank, RTZ, Lloyds TSB, SmithKline Beecham, Tesco, BSkyB, BP, Blue Circle, Shell and P&O, as well as numerous other leading issues.

UBS, the Swiss-owned securities house, was aggressively bidding for most of the leading stocks just before the close.

Early strength in share prices stemmed from a sparkling return to the market for Imperial Tobacco, newly-demerged from the Hanson group and whose shares eclipsed even the most optimistic expectations, closing at the top of the FTSE 100 performance table.

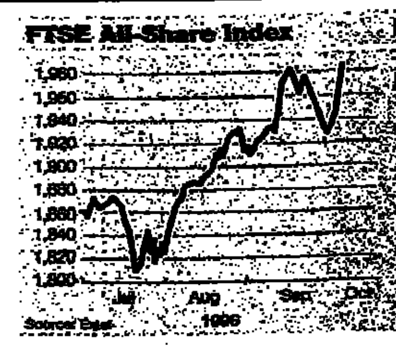
And the return of the ever-present bid stories circulating in the market over recent weeks produced some outstanding gains among the banks and insurances, as well as a sprinkling of stocks across other sectors.

News of a stronger than expected UK National Association of Purchasing Managers index for September caused some momentary jitters in the gilts market, where initial gains of between eight to 10 ticks were shaved, before that market regained its momentum later in the day.

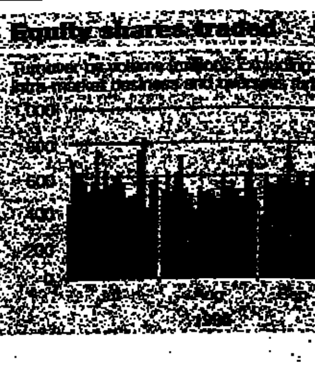
A relatively stable opening by Wall Street, in the wake of a weaker than expected US National Association of Purchasing Managers index, did little to choke off demand for UK shares.

Turnover at 6pm came out at 709.6m shares, while Monday's retail trade was valued at £1.49bn.

FTSE All-Share Index



Equity shares traded



Source: FT Extel

Indices and ratios

FTSE 100	3992.2	+38.5	FT 30	2861.7	+26.9
FTSE 250	4409.8	+18.7	FTSE Non-Fins p/e	18.26	18.13
FTSE 350	1986.6	+16.8	FTSE100 Fut Dec	4026.0	+41.0
FTSE All-Share	1960.67	+15.67	10 yr Gilt yield	7.63	7.63
FTSE All-Share yield	3.75	3.78	Long gilt/equity yld ratio	2.10	2.13

Best performing sectors

1 Tobacco +1.9
2 Engineering: Vehicles +1.7
3 Oil Exploration +1.3
4 Oil: Integrated +1.3
5 Electricity +1.2

Worst performing sectors

1 Gas Distribution -0.6
2 Household Goods -0.5
3 Distributors -0.2
4 Extractive Inds -0.0
5 Textiles & Apparel +0.1

Buoyant return for Imps

By Joel Kibazo and Lisa Wood

The market spotlight was firmly fixed on Imperial Tobacco, one of two companies demerged from Hanson, which made an impressive return to the stock market yesterday.

Dealing in the new independent group, which was installed in the FTSE 100 index, started at 375p, some 5p below the expected level.

The lower-than-anticipated start did little to check the market's appetite for the stock with the shares moving strongly ahead to touch a high of 395p, before closing at 393½p.

Imperial Tobacco not only took pole position in the Footsie, but was also the most heavily dealt stock with closing volume of 14m.

The stock should be heavily traded today with US buyers expected to show a keen interest in the shares though one UK broker said as the session drew to a close: "I am begining to feel the shares are starting to look expensive particularly relative to BAT."

The positive sentiment in Imperial soon spread to BAT Industries which helped the shares put on 6 to 431½p in trade of 7.4m. Shares in Hanson closed ¾ lower at 94½p, having traded 5.5m by the close. Millennium Chemicals, the other group demerged from Hanson is being listed in New York where it starts trading today.

Rumours that Millennium & Copthorne Hotels is about to hit the acquisition trail left its shares trailing 2 to 310½p.

The word in the market is that the group has cast its eye over the five Metropole conference hotels currently owned by Lonrho and is keen to buy them. However, market watchers suggested Millennium may need a rights issue to fund the acquisition.

Stakis is said to have also considered putting in a bid for the same chain but later decided against the acquisition. Lonrho shares hardened a penny to 171½p in trade of 1.4m. Stakis was unchanged at 99p.

Steel active

British Steel won the dubious honour of being the worst performer among FTSE 100 index constituents as the shares reacted to a broker's change of recommendation and share profits downgrade.

The shares fell 3 to close at 195p with turnover reaching 13m, making it one of the most active stocks of the day. The turnover included a single block of 6m shares traded at 194p.

Credit Lyonnais yesterday removed the stock from its "buy" list and now rates the shares a "hold".

The broker also reduced its profits estimate for British Steel cutting the current year forecast by £150m to £550m. It lowered the following year's estimate by £200m to £700m. Mr David Bevan at the securities house blamed the "poor pricing environment in the second quarter which has just ended".

However, he expects improvements in the second half of the current year and further progress in 1998.

J D Wetherspoon soared 59 to 1109p on the back of a "buy" note from Kleinwort Benson. This said that a number of operators, including J D Wetherspoon and Regent Inns, were cheap relative to the arithmetic average of a selected sample, on the basis of the value of the company relative to operating profits.

The broker said that Wetherspoon's strong earnings growth was set to continue, with two years worth of new pub openings in the pipeline.

Market interest in pub and restaurant companies has been bolstered recently by acquisitions including Pelican, by Whitbread, and Tom Cobleigh, by the Rank Organisation. Analysts suggested, however, that any bid for Wetherspoon would have to be agreed because of a substantial shareholding by the management, and that this was unlikely given the company's current growth prospects.

Cobham takes off

Aerospace group Cobham moved strongly ahead early in the day. It was not until late in the session that there was an announcement from the company saying the Ministry of Defence had selected its joint venture FBS as the preferred bidder for a £400m 15-year programme to provide aircraft and personnel for a new helicopter flying school.

The shares improved on earlier gains following the announcement and eventually closed 37 ahead at 669½p, one of the best performers in the FTSE Mid 250 index.

The stores sector was slightly brighter with Kingfisher climbing 9½ to 643p following a note from Morgan Stanley setting a target price for the stock of 773p in the near future.

Recently ABN-AMRO Hoare Govett gave Great Universal Stores a "sum of the parts valuation" of between 750p and 770p. One analyst quipped that there was a choice for about the same investment of buying GUS on break-up value or Kingfisher on fundamentals.

House of Fraser softened 4½ to 158p following interim results which were worse than analysts had expected and higher than anticipated provisions to cover store closures and reorganisation.

Boosey & Hawkes, the musical instruments maker, climbed 30 to 792½p following sparkling interim results, which were in line with analysts forecasts.

Takeover speculation continued around HTV which added 2 to 358½p ahead of today's interim figures. United News & Media, which is believed to be interested in HTV, softened 5½ to 683½p, partly because it is also understood to be a possible bidder for Blenheim, the exhibitions group. One analyst said there was concern that it might overstretch itself if it bid for both while if it bid for neither there were worries about its strategy. Blenheim, which reports interim figures today, fell 5 to 416p.

BSkyB added 9½ to 593p on speculation that it will try to extract an equity stake in the new Flextech/BBC subscription channel in return for allowing the service to be broadcast through its satellite network.

Meetings with analysts before it goes into its closed season was said to be responsible for EMAP rising 19 to 767½p.

RMC Group, which is heavily dependent on the Germany construction cycle, added 19½ to 1167p, with one analyst suggesting that this could be because of more favourable sentiment on German recovery.

A visit by institutional analysts to BPB's new factory in Germany was likely to be responsible for it rising 8½ to 382½p.

FT 30 INDEX

	Oct 1	Sep 30	Sep 27	Sep 26	Sep 25	Yr ago	*High	*Low
FT 30	2861.7	2834.8	2822.4	2817.8	2816.6	2607.5	2895.2	2668.8
Ord. div. yield	3.97	4.00	4.01	4.02	4.03	4.11	4.22	3.76
P/E ratio net	17.37	17.25	17.20	17.14	17.11	15.69	17.37	15.80
P/E ratio nil	17.21	17.09	17.04	16.98	16.95	15.55	17.21	15.71

FT 30 since compilation: high 2895.2 19/04/96; low 49.4 26/06/40. Base Date: 1/7/35.

FT 30 hourly changes

Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High	Low
2833.2	2840.8	2848.6	2855.4	2852.6	2851.1	2851.7	2853.2	2856.8	2861.7	2833.2

	Oct 1	Sep 30	Sep 27	Sep 26	Sep 25	Yr ago
SEAQ bargains	39,061	42,124	34,266	34,838	34,361	26,838
Equity turnover (£m)†	-	1486.2	1453.3	1392.8	1595.3	1275.0
Equity bargains†	-	39,455	33,380	32,091	32,916	34,796
Shares traded (ml)†	-	547.2	515.1	480.4	561.3	580.4

†Excluding intra-market business and overseas turnover.

	Oct 1	Sep 30	Sep 27	Sep 26	Sep 25	Yr ago	*High	*Low
FTSE AIM	1019.40	1030.10	1030.20	1028.30	1028.20	-	1140.40	965.70

■ **London market data**

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	671	Total Highs	146	Total contracts	46,982
Total Falls	561	Total Lows	46	Calls	34,928
Same	1,403			Puts	12,054

Oct 1 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

■ FTSE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec	3989.0	4028.0	+41.0	4037.0	3989.0	14783	58262
Mar		4040.0	+41.0			0	370
Jun		4050.0	+41.0			0	300

■ FTSE 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Dec		4438.0	+18.0			0	3571

■ FTSE 100 INDEX OPTION (LIFFE) (3987) £10 per full index point

	3800 C	3800 P	3850 C	3850 P	3900 C	3900 P	3950 C	3950 P	4000 C	4000 P	4050 C	4050 P	4100 C	4100 P	4150 C	4150 P
Oct	[illegible]															
Nov	[illegible]															
Dec	[illegible]															
Jan*	[illegible]															

Calls 10,268 Puts 4,848

■ EURO STYLE FTSE 100 INDEX OPTION (LIFFE) £10 per full index point

	3825	3875	3925	3975	4025	4075	4125	4175
Oct	[illegible]							
Nov	[illegible]							
Dec	[illegible]							
Mar	[illegible]							
Jun†	[illegible]							

Calls 10,098 Puts 3,258 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1996 High	1996 Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
[illegible]											

† Alternative Investment Market. § Placing price. * Introduction. For a full explanation of all other symbols please refer to The London Share Service notes.

FT GOLD MINES INDEX

	Sep 30	% chg on day	Sep 27	Year ago	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index (30)	1851.84	-1.3	1877.12	1965.73	1.68	-	2529.73	1722.93
■ Regional Indices								
Africa (13)	2425.63	-2.8	2495.03	2744.76	3.29	34.28	3353.86	2272.74
Australasia (6)	2064.26	-0.5	2075.30	2398.36	2.69	20.16	2927.34	2016.43
North America (11)	1662.70	-0.9	1677.12	1709.53	0.79	61.43	2186.39	1488.94

 Figures in brackets show number of companies. Basis US Dollars. Base Values: 1000.00 31/12/92. † Partial. Latest prices were unavailable for this edition.

FTSE Actuaries Share Indices — The UK Series

Produced in conjunction with the Faculty and Institute of Actuaries

	Oct 1	Day's chge%	Sep 30	Sep 27	Sep 26	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FTSE 100	3992.2	+1.0	3953.7	3946.4	3933.2	3524.2	3.90	2.04	15.70	145.91	1658.58
FTSE 250	4409.8	+0.4	4391.1	4406.2	4404.9	3968.6	3.46	1.55	23.35	149.46	1794.27
FTSE 250 ex IT	4439.7	+0.4	4420.7	4437.9	4437.3	3994.3	3.56	1.57	22.30	157.13	1810.32
FTSE 350	1986.6	+0.9	1969.8	1968.4	1963.0	1761.5	3.80	1.95	16.88	71.52	1666.13
FTSE 350 Higher Yield	1895.2	+0.7	1881.3	1883.8	1879.1	1745.3	5.07	1.83	13.45	92.48	1355.17
FTSE 350 Lower Yield	2085.2	+1.0	2065.4	2060.1	2054.1	1782.7	2.66	2.14	21.92	51.10	1458.57
FTSE SmallCap	2171.27	+0.2	2167.10	2170.08	2171.86	1971.61	3.12	1.59	25.15	55.35	1801.17
FTSE SmallCap ex IT	2164.32	+0.2	2159.92	2163.95	2166.85	1956.74	3.33	1.66	22.55	58.62	1807.97
FTSE All-Share	1960.67	+0.8	1945.00	1943.93	1939.20	1741.28	3.75	1.92	17.31	69.03	1689.31

■ **FTSE Actuaries Industry Sectors**

	Oct 1	Day's chge%	Sep 30	Sep 27	Sep 26	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 MINERAL EXTRACTION(24)	3853.05	+1.1	3811.25	3797.20	3754.61	2955.74	3.61	1.63	21.31	126.66	1681.57
12 Extractive Industries(6)	4243.89	----	4245.34	4242.99	4132.09	4268.74	3.82	2.66	12.28	161.60	1264.76
15 Oil, Integrated(3)	3970.82	+1.3	3921.24	3900.95	3869.69	2921.48	3.76	1.45	22.93	133.46	1778.72
16 Oil Exploration & Prod(15)	2868.74	+1.3	2831.71	2846.31	2796.85	1975.06	1.85	1.67	40.55	51.73	1738.08
20 GEN INDUSTRIALS(276)	2110.84	+0.7	2096.39	2090.39	2090.27	1993.29	4.04	1.74	17.79	70.44	1172.54
21 Building & Construction(34)	1194.79	+0.1	1193.64	1193.45	1195.30	926.55	3.50	1.55	22.98	31.44	1011.26
22 Building Matls & Merchs(29)	1977.84	+0.6	1966.32	1961.56	1966.23	1743.61	3.89	1.53	21.02	60.66	1012.99
23 Chemicals(25)	2534.84	+0.6	2518.64	2508.25	2497.94	2447.34	4.00	1.58	20.50	85.30	1221.48
24 Diversified Industrials(19)	1579.05	+0.9	1565.23	1565.65	1561.98	1775.95	6.43	1.62	12.00	87.44	909.19
25 Electronic & Elect Equip(37)	2405.77	+0.3	2398.27	2408.28	2416.12	2173.64	3.28	1.46	26.17	60.73	1266.90
26 Engineering(71)	2649.63	+0.8	2628.68	2614.81	2615.84	2215.76	3.07	2.45	16.62	63.00	1627.44
27 Engineering, Vehicles(14)	3282.84	+1.7	3229.52	3151.06	3148.06	2670.06	3.29	1.71	22.25	98.21	1730.20
28 Paper, Pckg & Printing(28)	2673.86	+0.5	2660.21	2663.63	2658.46	2915.77	3.88	1.83	17.63	84.65	1131.83
29 Textiles & Apparel(19)	1184.71	+0.1	1183.76	1195.97	1198.61	1615.08	6.02	1.18	17.52	50.38	738.22
30 CONSUMER GOODS(93)	3771.01	+0.9	3735.92	3731.56	3697.54	3398.23	3.71	1.94	17.40	123.46	1417.13
32 Alcoholic Beverages(8)	2801.66	+0.8	2779.36	2773.32	2756.80	2976.90	4.54	1.63	16.94	91.68	1024.38
33 Food Producers(25)	2594.99	+0.5	2582.38	2598.23	2602.05	2490.93	4.05	1.86	16.55	82.96	1189.35
34 Household Goods(15)	2706.57	-0.5	2721.22	2718.19	2694.55	2545.24	3.76	2.26	14.73	64.97	1041.96
36 Health Care(19)	2047.68	+0.6	2035.67	2043.21	2048.91	2001.59	2.90	1.97	21.92	42.70	1255.63
37 Pharmaceuticals(14)	5864.15	+1.1	5800.54	5754.99	5646.02	4479.68	2.57	2.06	21.21	162.93	2023.02
38 Tobacco(2)	3671.58	+1.9	3604.36	3676.36	3714.48	4481.10	6.22	2.06	9.78	262.07	945.49
40 SERVICES(256)	2581.23	+0.8	2561.96	2566.57	2564.84	2183.58	2.87	1.97	22.12	69.43	1360.67
41 Distributors(30)	2826.49	-0.2	2832.00	2850.07	2852.22	2749.53	2.99	2.00	20.96	73.30	1056.03
42 Leisure & Hotels(25)	3153.00	+0.4	3141.93	3134.54	3126.75	2489.11	2.76	2.03	22.24	172.03	1714.08
43 Media(45)	4397.27	+0.8	4360.29	4354.99	4348.78	3361.71	2.08	2.04	29.52	87.14	1607.75
44 Retailers, Food(15)	1944.72	+0.8	1928.94	1934.70	1942.18	2114.51	4.03	2.37	13.10	63.49	1257.40
45 Retailers, General(45)	2134.38	+0.9	2114.72	2126.51	2123.76	1803.03	3.01	2.08	20.04	54.80	1235.76
47 Breweries, Pubs & Rest.(22)	3115.01	+0.5	3098.06	3113.24	3117.46	2614.91	3.32	1.97	19.14	68.21	1510.42
48 Support Services(50)	2561.41	+0.6	2547.31	2555.04	2557.10	1852.41	1.92	2.29	28.37	42.53	1641.49
49 Transport(23)	2557.26	+1.0	2531.37	2524.53	2514.37	2237.22	3.70	1.12	30.22	81.63	1086.30
60 UTILITIES(33)	2289.62	+0.9	2268.58	2268.64	2306.90	2571.65	5.52	1.80	12.58	158.45	1019.46
62 Electricity(12)	2361.06	+1.2	2334.13	2360.23	2366.80	2781.94	6.45	2.40	8.08	429.17	1278.50
64 Gas Distribution(2)	1335.47	-0.6	1342.97	1349.99	1356.14	1750.43	8.97	0.83	16.71	66.67	700.46
66 Telecommunications(8)	1945.32	+1.1	1924.76	1933.49	1959.23	2153.22	4.15	1.53	19.70	50.32	903.58
68 Water(11)	2181.93	+1.1	2158.36	2207.05	2209.00	2148.46	6.30	2.31	8.57	94.85	1234.03
69 NON-FINANCIALS(671)	2063.19	+0.8	2045.95	2046.53	2041.30	1863.73	3.74	1.83	18.28	73.48	1595.76
70 FINANCIALS(104)	3209.19	+0.7	3185.49	3172.52	3166.26	2618.46	4.13	2.38	12.74	117.88	1410.51
71 Banks, Retail(8)	4608.77	+1.0	4565.39	4542.57	4522.54	3591.00	3.93	2.71	11.74	174.00	1540.08
72 Banks, Merchant(6)	3696.04	+0.5	3678.68	3709.86	3719.48	3632.82	2.82	2.85	15.54	91.01	1199.96
73 Insurance(21)	1491.45	+0.5	1484.39	1482.08	1484.94	1316.83	5.82	2.29	9.69	60.41	1140.26
74 Life Assurance(6)	3665.84	+0.6	3644.39	3619.83	3635.11	3041.89	4.23	1.94	15.24	151.01	1558.59
77 Other Financial(20)	2657.64	+0.1	2654.50	2667.08	2648.37	2353.51	4.02	1.77	17.61	86.41	1540.16
79 Property(41)	1661.52	+0.4	1655.20	1647.96	1650.09	1449.25	3.86	1.28	25.77	45.59	1038.14
80 INVESTMENT TRUSTS(127)	3216.41	+0.3	3207.09	3202.26	3195.84	2934.52	2.21	1.11	50.70	57.31	1133.45
89 FTSE All-Share(902)	1960.67	+0.8	1945.00	1943.93	1939.20	1741.28	3.75	1.92	17.31	69.03	1689.31
FTSE Fledgling	1238.90	----	1238.92	1238.78	1240.13	1073.76	2.81	0.60	74.82	27.80	1309.40
FTSE Fledgling ex IT	1250.20	----	1250.76	1250.65	1252.99	1070.18	3.01	0.51	90.00†	30.22	1322.96

■ **Hourly movements**

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FTSE 100	3954.7	3963.5	3976.0	3984.5	3980.2	3978.7	3978.9	3979.2	3987.3	3992.2	3954.7
FTSE 250	4393.4	4397.1	4402.7	4406.4	4408.9	4409.5	4410.0	4410.0	4408.6	4410.5	4393.4
FTSE 350	1970.4	1974.2	1979.6	1983.3	1981.9	1981.4	1981.4	1981.6	1984.8	1986.6	1970.4

Time of FTSE 100 Day's high: 4:30 PM Day's low: 8:30 AM. FTSE 100 1996 High: 3992.2 (01/10/96) Low: 3632.3 (16/07/96).

■ **FTSE 350 Industry baskets**

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	Close	Previous	Change
Bldg & Cnstrcn	1169.1	1170.6	1172.6	1172.6	1172.0	1172.0	1170.9	1169.8	1167.5	1167.5	1167.3	+0.2
Pharmaceuticals	5725.5	5743.4	5768.9	5780.7	5776.3	5766.3	5768.8	5786.6	5795.4	5794.6	5731.3	+63.3
Water	2149.8	2151.3	2154.1	2164.0	2166.3	2167.5	2168.7	2167.6	2168.8	2167.6	2143.8	+24.1
Banks, Retail	4621.3	4630.5	4645.1	4660.2	4665.5	4654.9	4662.5	4665.8	4663.8	4667.8	4623.7	+43.9

For further information on the FTSE Actuaries Share Indices please contact FTSE International on 0171 448 1810. The FTSE Actuaries Share Indices are calculated in accordance with a standard set of ground rules established by FTSE International in conjunction with the Faculty of Actuaries and the Institute of Actuaries. "FT-SE" and "Footsie" are trade marks of the London Stock Exchange and The Financial Times and are used by FTSE International under licence. Auditor: The WM Company. † Sector P/E ratios greater than 80 are not shown. ‡ Values are negative. INSERT: Imperial Tobacco (38) & (FTSE 100); DELETION: HCG Lloyds Inv. Tst. (77) & (FTSE SmallCap)

FTSE

TRADING VOLUME

■ **Major Stocks Yesterday**

	Vol. 000s	Closing price	Day's change
[illegible]	[illegible]	[illegible]	[illegible]

Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

EUROPE

AUSTRIA (Oct 1 / Sch)

BELGIUM/LUXEMBOURG (Oct 1 / Frs.)

CZECH REP (Oct 1 / Korona)

DENMARK (Oct 1 / Kr)

FINLAND (Oct 1 / Mka)

FRANCE (Oct 1 / Frs.)

GERMANY (Oct 1 / Dm.)

GREECE (Oct 1 / Drachma)

ITALY (Oct 1 / Lire)

NETHERLANDS (Oct 1 / Fls.)

NORWAY (Oct 1 / Kroner)

POLAND (Oct 1 / Zloty)

PORTUGAL (Oct 1 / Escudo)

SPAIN (Oct 1 / Pts.)

SWEDEN (Oct 1 / Kronor)

SWITZERLAND (Oct 1 / Fr.)

TURKEY (Oct 1 / Tk Lira)

PACIFIC

JAPAN (Oct 1 / Yen)

HONG KONG (Oct 1 / H.K.$)

INDONESIA (Oct 1 / Rupiah)

MALAYSIA (Oct 1 / MYR)

NEW ZEALAND (Oct 1 / NZ $)

SINGAPORE (Oct 1 / S$)

AUSTRALIA (Oct 1 / Aust$)

SOUTH KOREA (Oct 1 / Won)

TAIWAN (Oct 1 / TW $)

THAILAND (Oct 1 / Baht)

AFRICA

SOUTH AFRICA (Oct 1 / Rand)

NORTH AMERICA

CANADA

TORONTO (Oct 1 / Can $)

4 pm close

MONTREAL (Oct 1 / Can $)

4 pm close

INDICES

	Oct 1	Sep 30	Sep 27	1996 High	1996 Low
Argentina					
General(29/12/77)	(u)	16951.0	16918.73	18881.95 20/5	15287.25 22/8
Australia					
All Ordinaries(1/1/80)	2285.5	2290.4	2283.0	2326.00 26/4	2096.10 17/7
All Mining(1/1/80)	931.8	952.5†	954.2	1118.40 8/5	923.10 23/9
Austria					
Credit Aktien(30/12/84)	361.52	361.35	357.75	394.88 31/5	349.19 6/9
Traded Index(2/1/91)	1053.53	1054.19	1048.81	1142.51 28/5	975.27 2/1
Belgium					
BEL20(1/1/91)	1779.16	1771.23	1773.21	1779.16 1/10	1574.90 2/1
Brazil					
Bovespa(29/12/83)	(u)	64469.0	64599.0	68922.00 12/7	43901.00 2/1
Canada					
Metals Minls♦(1975)	(u)	4986.87	4999.48	5624.80 8/5	4687.47 16/1
Composite♦(1975)	(u)	5291.08	5301.10	5322.80 25/9	4738.70 15/1
Portfolio$$(4/1/83)	(u)	2602.79	2608.68	2624.25 25/9	2327.39 12/1
Chile					
IGPA Gen♥(31/12/80)	(u)	5414.93	5430.25	5804.33 8/1	5215.28 8/4
Denmark					
CopenhagenSE(3/1/83)	437.19	433.55	431.54	433.56 30/9	368.40 2/1
Finland					
HEX General(28/12/90)	2186.24	2174.14	2171.0	2186.24 1/10	1651.87 10/1
France					
SBF 250(31/12/90)	1426.77	1430.13	1418.30	1457.58 6/6	1250.18 2/1
CAC 40(31/12/87)	2123.21	2132.81	2107.05	2146.79 30/4	1887.85 11/1
Germany					
FAZ Aktien(31/12/58)	931.98	926.77	929.50	932.52 26/9	813.58 2/1
Commerzbank(1/12/53)	2711.70	2698.1	2709.7	2718.90 26/9	2370.10 2/1
DAX(30/12/87)	2655.73	2651.85	2659.04	2666.55 26/9	2284.86 2/1
Greece					
Athens SE(31/12/80)	960.39	953.61	963.55	1017.88 4/3	872.99 7/8
Hong Kong					
Hang Seng(31/7/64)	11921.22	11802.43	11759.39	11921.22 1/10	10204.87 2/1
India					
BSE Sens.(1979)	3226.60	3239.48	3254.73	4069.26 18/6	3026.08 25/1
Indonesia					
Jakarta Comp.(10/8/82)	580.21	573.94	573.30	630.21 24/4	512.48 2/1
Ireland					
ISEQ Overall(4/1/88)	2656.85	2653.72	2653.52	2686.85 1/10	2234.61 2/1
Italy					
Banca Comm Ital(1972)	629.10	635.79	633.26	674.10 20/5	572.21 27/3
MIB General(2/1/86)	1071.0	1078.0	1073.0	1142.00 20/5	970.00 27/3
Japan					
Nikkei 225(16/5/49)	21462.97	21556.40	21547.02	22666.80 26/6	19734.70 13/3
Nikkei 300(1/10/82)	304.07	304.67	303.41	319.70 25/6	284.48 11/3
Topix(4/1/68)	1622.91	1627.55	1622.25	1722.13 26/6	1524.12 13/3
2nd Section(4/1/68)	2107.10	2109.15	2101.45	2251.48 2/7	1982.78 14/3
Malaysia					
KLSE Comp.(4/4/86)	1134.96	1135.27	1130.59	1189.54 30/4	993.18 2/1
Mexico					
IPC(Nov 1978)	(u)	3236.32	3236.79	3433.75 27/8	2738.36 8/3
Netherland					
CBS TtlRtnGen(End 83)	669.1	668.4	662.3	669.10 1/10	538.50 2/1
CBS All Shr(End 83)	393.1	392.7	389.1	393.10 1/10	326.70 2/1
New Zealand					
Cap. 40(1/7/86)	2212.56	2190.26	2222.02	2248.19 24/9	2025.14 7/6
Norway					
Oslo SE(Ind)(2/1/83)	1413.22	1402.68	1413.87	1466.71 12/6	1259.68 30/1
Philippines					
Manila Comp(2/1/85)	3189.98	3159.78	3223.71	3374.49 5/7	2578.97 2/1
Portugal					
BVL 30(4/1/93)	1992.24	1985.10	1987.98	2009.78 10/9	1802.81 2/1
Singapore					
SES All-S'pore(2/4/75)	526.07	529.60	529.17	610.37 5/2	522.15 30/7
South Africa					
JSE Gold(28/9/78)	1677.2♥	1653.7	1697.0	2030.40 29/5	1348.40 2/1
JSE Ind.(28/9/78)	8134.1♥	8130.5	8179.2	8739.30 25/1	7835.60 30/8
South Korea					
Korea Comp Ex(4/1/80)	789.47	789.57	(c)	986.84 7/5	753.35 28/8
Spain					
Madrid SE(30/12/85)	370.10	368.27†	366.45	375.25 1/7	323.75 11/1
Sweden					
AffarsvarldenGen(1/2/37)	2115.5	2091.3	2093.5	2115.50 1/10	1706.60 22/1
Switzerland					
Swiss Bk Ind(31/12/58)	(u)	1779.54	1760.07	1811.66 11/7	1516.19 17/1
SBC General(1/4/87)	(u)	1259.59†	1247.93	1284.88 11/7	1114.47 25/1
Taiwan					
Weighted Pr.(30/6/66)	6513.73	6504.68	(c)	6580.41 29/6	4690.22 6/2
Thailand					
Bangkok SET(30/4/75)	1085.64	1095.01	1047.96	1415.04 6/2	982.03 10/9
Turkey					
Istanbul Comp.(Jan 1986)	71331.5	72452.9	71576.6	73531.30 8/7	38779.30 2/1
WORLD					
MS Capital Intl(1/1/70)	788.1	787.4	785.6	786.50 27/9	725.90 15/1
CROSS-BORDER					
Eurotrack 100(26/10/90)	1731.72	1724.66	1723.44	1731.72 1/10	1504.40 11/1
Euro Top-100(26/6/90)	1475.30	1471.83	1465.16	1475.30 1/10	1333.07 11/1
HSBC JC Drgn(31/12/93)	(u)	386.58	382.56	386.98 30/9	344.19 2/1
ING Bmgs Emrg(7/1/92)	160.56	160.90	160.93	165.81 4/7	147.35 2/1

US INDICES

Dow Jones	Sep 30	Sep 27	Sep 26	1996 High	1996 Low	Since compilation High	Since compilation Low
Industrials	5882.17	5872.92	5868.85	5894.74 (23/9)	5032.94 (10/1)	5894.74 (23/9/96)	41.22 (8/7/32)
Home Bonds	102.25	102.61	102.18	108.08 (14/2)	100.99 (15/7)	109.77 (18/10/93)	54.99 (1/10/81)
Transport	2079.02	2067.04	2048.77	2296.20 (22/5)	1882.71 (18/1)	2296.20 (22/5/96)	13.23 (8/7/32)
Utilities	218.88	218.14	218.63	224.00 (12/2)	204.86 (30/7)	256.48 (31/8/93)	16.53 (8/7/32)

DJ Ind. Day's high 5934.32 (5903.99) Low 5845.18 (5819.66) (Theoretical♦)
Day's high 5907.32 (5876.25) Low 5872.55 (5845.56) (Actual♦)

Standard and Poors	Sep 30	Sep 27	Sep 26	1996 High	1996 Low	Since compilation High	Since compilation Low
Composite‡	687.31	686.20	685.86	687.31 (30/9)	598.48 (10/1)	687.31 (30/9/96)	4.40 (1/6/32)
Industrials♥	812.85	811.15	811.23	814.67 (20/9)	702.07 (15/1)	814.67 (20/9/96)	3.52 (30/6/32)
Financial	72.38	72.36	72.11	72.38 (30/9)	58.67 (10/1)	72.38 (30/9/96)	7.13 (4/9/74)
NYSE Comp.	367.33	366.27	365.99	367.33 (30/9)	321.41 (10/1)	367.33 (30/9/96)	4.64 (25/4/42)
Amex Mkt Val	571.49	568.47	567.18	614.99 (22/5)	525.60 (16/7)	614.99 (22/5/96)	29.13 (9/12/74)
NASDAQ Cmp	1226.92	1230.05	1227.98	1249.14 (5/6)	988.57 (15/1)	1249.14 (5/6/96)	54.87 (3/10/74)

■ RATIOS

	Sep 27	Sep 20	Sep 13	Year ago
Dow Jones Ind. Div. Yield	2.17	2.16	2.17	2.42
	Sep 25	Sep 18	Sep 11	Year ago
S & P Ind. Div. yield	1.97	1.98	2.02	2.07
S & P Ind. P/E ratio	22.54	22.41	21.84	17.94

■ NEW YORK ACTIVE STOCKS

Monday	Stocks traded	Close price	Change on day
Pepsico	8,125,300	28¼	+⅛
K-Mart	8,038,300	10¼	+1
Lucent	6,451,900	45⅝	+1½
ADT	5,537,900	19	-⅛
Micron Tech	4,833,300	30⅜	-⅜
Hanson	4,693,400	12¼	-⅛
AT & T	4,680,000	52¼	+¾
Ford	2,925,400	31½	+⅝
Wal-Mart	2,907,200	26¼	....
Gen. Motors	2,441,200	48	+⅛

■ TRADING ACTIVITY

● Volume (million)

	Sep 30	Sep 27	Sep 26
New York SE	361.420	406.786	499.853
Amex	17.361	18.168	23.696
NASDAQ	534.243	569.698	734.697
NYSE			
Issues Traded	3,250	3,207	3,222
Rises	1,306	1,296	1,398
Falls	1,073	1,008	1,005
Unchanged	871	903	821
New Highs	181	123	161
New Lows	29	33	31

INDEX FUTURES

	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
■ CAC-40 (200 x Index)							
Oct	2132.0	2134.0	-6.0	2138.0	2026.0	8,333	29,306
Dec	2142.0	2144.0	-7.0	2147.0	2137.0	531	16,926
■ DAX							
Mar	2684.0	2669.0	-2.5	2674.0	2659.0	15,494	74,725
Dec	2682.5	2687.5	-3.5	2687.5	2681.0	22	4,059
■ OMX							
Sep	1625.00	1641.00	-16.0	1642.00	1625.00	5,706	22,121
Oct	1639.00	1632.50	-31.5	1539.00	1638.00	190	1,844
■ SOFFEX							
Sep	3736.5	4425.0	-740.0	3737.0	3679.0	500	1,307
Oct	3741.0	3688.0	-32.7	3741.0	3689.0	3,352	9,641
■ S&P 500							
Dec	691.20	692.50	+1.10	693.60	690.35	57,455	176,638
Mar	697.80	698.40	+0.65	699.40	697.00	293	4,065
■ Nikkei 225							
Dec	21590.0	21500.0	-70.0	21610.0	21430.0	19,850	199,365
Mar	21550.0	21550.0	-60.0	21550.0	21550.0	1	10,230

Open interest figures for previous day.

Sep 26: Taiwan Weighted Price (c): Korea Comp Ex (c). Base values of all indices are 100 except Australia All Ordinary and Mining – ... Corrected. * Calculated at 15.00 GMT. ● Excluding bonds. ‡ Industrial, plus Utilities, Financial and Transportation. ♦ The DJ Ind. index theoretical day's highs and lows are the averages of the highest and lowest prices reached during the day by each stock whereas the actual day's highs and lows (supplied by Telekurs) represent the highest and lowest values that the index has reached during the day. (The figures in brackets are previous day's) ♥ Subject to official recalculation.

■ TOKYO - MOST ACTIVE STOCKS: Tuesday, October 1, 1996

	Stocks Traded	Closing Prices	Change on day
Keisei Elec Rail	6.1m	1,120	[illegible]
Sansui Electric	7.0m	293	[illegible]
Ga-Jo-En Kanko	6.8m	107	[illegible]
Pasco	6.2m	664	[illegible]
NKK	5.0m	285	[illegible]
Sumitomo Seika	[illegible]	[illegible]	[illegible]
Janome Sewing	[illegible]	[illegible]	[illegible]
Mitsui Const	[illegible]	[illegible]	[illegible]
Nippon Steel	[illegible]	[illegible]	[illegible]
Mazda Motor	[illegible]	[illegible]	[illegible]

FT FREE ANNUAL REPORTS SERVICE

4 pm close October 1

NEW YORK STOCK EXCHANGE PRICES

1996 High	Low	Stock	Div	Yld %	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
23⅞	17¾	AAR	0.48	2.1	20	321	23⅛	22⅞	22⅞	-¼
48⅛	36⅛	AMP	1.00	2.6	18	3581	38¾	38⅜	38⅝	-⅛
97½	68	AMR			16	8137	80¼	79	79⅞	-⅛
50½	37⅞	ASA	2.00	5.2	25	579	38⅝	38⅛	38½	
49¾	38⅛	AbbotL	0.96	1.9	21	4209	49⅜	49	49⅜	+⅛
17¼	12¼	Abitibi Pr	0.40	3.1	6	833	13	12⅞	12⅞	
20¾	13½	ABM Ind	0.35	2.1	17	19	17	16⅝	16¾	-⅛
19	13⅞	Acptncein			38	52	18⅞	18½	18⅝	-¼
53	37¾	ACE Ltd	0.56	1.1	12	2023	u53	52¼	52⅝	-¼
10½	9⅛	ACM Gvt In	0.48	4.7	8	227	u10⅛	10	10⅛	+¼
7⅞	6⅝	ACM GvOpp	0.57	8.1		980	7	6⅞	7	
9⅝	8⅜	ACM Man	0.90	9.4		154	u9⅝	9⅞	9⅝	+⅛
13⅞	6⅛	Acme Elect	0.32	4.1	131	206	8	7⅞	7⅞	+¼
17½	13⅞	Acme Mills			11	31	17⅜	17⅛	17⅜	+¼
33¾	27¾	Acordia	0.72	2.4	17	32	30⅜	30⅛	30⅛	-¼
21⅜	12	Acuson			86	798	17⅜	17¼	17¼	+⅛
20⅛	17⅞	Adams Expr	0.48	2.4	1	181	u20⅛	20	20⅛	
21¼	10¼	AdvMic			8	2929	14⅝	14¼	14⅜	-⅜
11⅛	8½	Advest Grp	0.16	1.6	7	37	9⅞	9¾	9⅞	+⅛
20⅛	9⅛	Advo Inc	0.10	0.8	606	932	12⅜	11¾	12⅛	+⅛
51½	41⅛	Aegon	1.45	2.9	15	57	50¼	49⅞	50¼	+½
6¾	3½	Aerflx			3	482	4⅞	4⅝	4⅜	-¼
70⅞	57⅝	Aetna	0.80	1.1	7	3177	70⅛	69⅜	69¾	-⅜
37⅜	28¼	Aflac	0.40	1.1	15	1709	36⅜	35¾	36¼	+¾
21⅛	17⅛	AGL Res	1.08	5.4	16	284	19½	19⅛	19½	+⅜
28⅜	21¼	Ahmanson	0.88	3.1	7	3020	u28⅜	27⅞	28¼	-¼
60⅞	50⅜	AirPrC x	1.10	1.9	15	1557	58¼	58	58¼	
28⅜	19⅞	Airbus Frt	0.30	1.4	14	545	21¼	21⅛	21⅛	-¼
25½	15½	Airgas Inc			40	753	d25½	24⅞	25¼	-⅛
18⅞	13¼	Airlease x	1.80	11.9	9	36	15⅛	15	15⅛	+⅛
33⅝	25	AirTch			79	13107	28	27½	27⅞	+¼
30¾	15⅞	Alaska Air	0.20	0.9	7	1640	21⅜	21	21¼	-⅛
22⅝	17¼	Albany Int	0.40	1.8	14	7000	22	21⅝	22	+⅜
24⅛	14⅜	Alberti	0.28	1.6	6	403	17⅞	17⅛	17⅞	+¼

1996 High	Low	Stock	Div	Yld %	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
41⅛	32	Beckman In	0.52	1.3	19	71	39¼	39	39	+⅛
44⅞	35½	BectnD	0.46	1.1	20	2341	44¼	43	43⅛	-1⅛
15⅞	12⅜	BelvdProp x	0.48	3.4	19	44	14¼	14⅛	14¼	
74⅞	55⅛	BellAtl	2.88	4.8	13	6181	59¾	59¼	59¾	-⅛
22¼	15	Bell In	0.40	2.6	7	893	15¾	15½	15½	
45¾	35¼	BelSth	1.44	3.8	18	5828	37⅝	36¾	37⅝	+⅝
41¾	31	Belo A	0.44	1.3	18	3506	34½	34	34¼	-¼
38¼	25⅝	Bemis	0.72	2.0	18	573	35⅜	34⅛	35⅛	+1¼
67	59	Benef 4.3P	4.30	7.2		20	61¾	59¾	60	-1
61¼	43⅝	Benef	2.08	3.6	12	1043	58⅜	57½	58⅛	+⅝
27¾	20¾	Benetton A	0.37	1.6	14	37	22⅝	22⅝	22⅝	-⅛
⅞	1/32	Benguet B	0.04	9.1	21	75	15/32	7/16	7/16	-1/32
32½	24⅛	BergBr	0.48	1.5	18	252	32¼	31¾	31¾	
38000	29800	BerkHA			75	z90	32100	32000	32000	-150
1220	990	BerkHB				13	1073	1058	1062	-11
12½	8¾	Berry Petr	0.40	3.5	16	z100	11½	11½	11½	+⅛
28¼	12	Best Buy			22	1018	22¾	22⅛	22⅛	-⅝
28⅛	25⅛	Beth St 2	2.50	9.3		29	26¾	26⅝	26¾	
54¾	51¼	Bethlhm Pf	5.00	9.6		14	52⅛	52	52⅛	
15⅞	9¼	BethSt	0.40	4.0	22	14241	10¼	9⅞	10⅛	+⅛
53½	40⅛	Btzbm	1.46	2.8	22	1030	53	52⅝	52¾	+¼
12⅝	9¼	BevEnt			67	2049	10⅞	10¾	10¾	-⅛
18	14½	Birmingm S	0.40	2.5	203	735	16½	15⅞	16¼	+⅜
44¼	30¾	BlDeck	0.48	1.2	13	4892	42	41¼	41⅝	+⅛
26¾	22¾	Black H PL	1.38	5.4	13	83	25⅞	25½	25½	-⅜
9⅛	8	BlckrckAdv	0.62	7.6		22	8⅜	8¼	8¼	
6⅝	5⅞	BlckrckInc	0.56	8.8		378	6⅜	6¼	6⅜	
9	8⅜	BlckrckTgt	0.57	6.7		433	8¾	8⅝	8⅝	-⅛
42⅛	23⅝	Block	1.28	4.3	26	2755	29⅝	29⅛	29⅝	-⅛
34½	25⅜	Blount A	0.44	1.3	12	142	34⅛	33½	34⅛	+½
9⅞	7½	Blue Chip	0.12	1.3		54	u9⅞	9¾	9⅞	+⅛
4¾	2⅞	Bluegreen			106	85	3¼	3¼	3¼	
32⅜	19¾	BMC Ind	0.05	0.2	28	108	28¾	28⅝	28¾	+⅛
96	74¼	Boeing	1.12	1.2	31	7319	95⅝	94⅝	95¼	+¾

[illegible]

Continued on next page

NYSE PRICES

4 pm close October 1

Continued from previous page

1996 High	Low	Stock	Div.	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chg'ge Prev. Close
29¾	18½	Zurn Ind x	0.40	1.8	19	56	22⅜	22¼	22¼	-⅛
11⅜	10½	Zweig Fund	1.08	9.6		106	11¼	11⅛	11¼	
9	8¼	Zweig Total	0.84	9.9		303	8½	8⅜	8½	

Price data supplied by Telekurs

Yearly highs and lows for NYSE reflect the period from Jan 1 1996. Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Sales figures are unofficial.
d-new yearly low. P/E price-earnings ratio. sls-sales. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.
• Dealings suspended.

FT Free Annual Reports Service
You can obtain the current annual/interim report of any company annotated with ♣. Please quote the code FT3185. Ring 0181 770 0770 (open 24 hours including weekends) or fax 0181 770 3822. If calling from outside the UK, dial +44 181 770 0770 or fax +44 181 770 3822. Reports will be sent on the next working day, subject to availability.

AMEX PRICES

4 pm close October 1

Stock	Div.	P/ E	Sls 100s	High	Low	Close	Chng
NVR		6	133	9⅝	9⅜	9⅝	+³⁄₁₆
Pegasus G	0.10	102	2058	10⅜	10⅛	10¼	+⅛
Perini	0.80	1	57	9⅛	9	9⅛	+⅛
Pittway A	0.33	13	17	44⅞	44½	44½	-⅜
PMC x	1.12	12	14	13⅝	13½	13⅝	
RaganBrad		27	z100	30¾	d30¾	30¾	
SJW Corp	2.22	9	13	39⅜	39¼	99⅜	+⅜
Tab Prods	0.20	12	z100	7³⁄₁₆	7³⁄₁₆	7³⁄₁₆	
Tel&Data	0.40	16	456	40⅜	39¾	40¼	
Thermedics		41	85	26⅛	25½	25½	-⅞
Thermoinstr		30	528	36⅝	36⅜	36⅝	
TotPMA	0.30	144	82	10¼	10⅛	10⅛	-¼
TownCntry		4	12	⅞	⅞	⅞	
Triton		0	305	¹³⁄₁₆	¾	¾	+¹⁄₁₆
Tubos Mex		6	2459	11⅛	10⅞	11⅛	+¼
TurnrBrA	0.07	126	592	28¼	27⅞	27⅞	-⅝
TurnrBrB	0.07	127	2751	28¼	28	28	-¼
UtdFoodsA	0.23	24	51	1¹⁵⁄₁₆	1¹³⁄₁₆	1¹⁵⁄₁₆	
UtdFoodsB	0.20	24	50	1¹³⁄₁₆	1¹³⁄₁₆	1¹³⁄₁₆	
US Cellul		17	70	30¼	29⅞	30	-¼
ViacomA		118	1599	35⅛	34⅜	34⅜	-⅞
ViacomB		119	8585	35⅜	34½	34⅝	-⅞
WIRET	1.12	17	208	12¾	12⅝	12¾	+⅛
Xytronix		3	88	1¾	1¾	1¾	-¹⁄₁₆

NASDAQ NATIONAL MARKET

4 pm close October 1

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
ACC Corp	0.12	578	2086	47¼	45¾	46¼	-1
Acclaim E		6	2639	7¾	7⁹⁄₁₆	7¹¹⁄₁₆	-¹⁄₁₆
Acxiom Cp		56	1580	u41⅜	40½	41⅛	
Adaptech		36	9770	60⅛	58½	59½	-½
ADC Tele		49	5357	64½	61¼	61⅞	-2⅝
Addington		18	575	26⅛	25½	25½	-⅛
AdeccoADR	0.16	30	z100	34¾	34¾	34¾	-⅛
Adobe Sys x	0.20	36	10118	37⅞	37	37½	+¼
Adv Logic		11	286	8⅜	8⅛	8⁵⁄₁₆	+³⁄₁₆
Adv Polym		13	586	8⅝	8⁵⁄₁₆	8½	+¼
AdvTchLab		82	776	32¼	30	30½	-1½
Advanta B	0.43	12	3472	43¼	42¾	43	+¼

Stock	Div.	P/ E	Sls 100s	High	Low	Last	Chng
Dnlply x	0.33	19	240	44½	44	44½	
Dep Gty	1.40	12	203	u49½	48⅝	49½	+1¼
Devcon	0.20	15	15	6⅞	6⅞	6⅞	
DH Tech		16	8	24	23¾	23¾	-1½
Digi Intl		11	1526	14⅝	13¾	14½	+¼
Dig Micro		66	3585	24⅛	22½	23⅞	+⅜
Dig Sound		3	482	1⅝	1¹⁷⁄₃₂	1⅝	+⅛
Dig Sys		40	1310	18⅜	17¾	18¼	+⅝
Dionex Cp		21	144	38½	37½	37½	-½
Dixie Ym	0.20	0	37	4¾	4⅜	4⅜	-⅛
Dollar Gn	0.20	28	229	31⅛	30½	31	-⅜
Dorch Hm x	0.68	15	24	15½	15	15½	

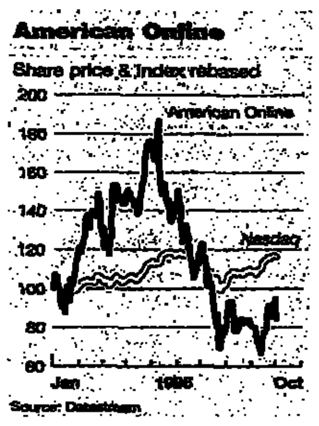
Dow dips on high tech profit-taking

AMERICAS

A sell-off in the technology sector, as some investors took profits, led US shares lower at midsession yesterday, *writes Lisa Bransten in New York.*

At 1 pm, the Dow Jones Industrial Average was 20.13 lower at 5,862.04, the Standard & Poor's 500 slipped 2.68 at 684.65 and the American Stock Exchange composite fell 2.75 at 568.74. Volume on the New York Stock Exchange came to 236m shares.

The technology-rich Nasdaq composite slid 11.95 at 1,214.97 as several of its best-performing large capitalisation shares gave up ground. The Pacific Stock Exchange technology index was 1.6 per cent lower.



All of the four biggest companies on the Nasdaq were lower. Microsoft gave up $¾ at $131, Intel was $1⅛ weaker at $94¾, Cisco Systems lost $1⅞ at $60½ and Oracle shed $⅝ at $42⅜.

Semiconductor shares were also mostly lower. Texas Instruments gave up $1¼ at $53⅝, Micron technology lost $1⅞ or $29⅞ and Cirrus Logic was $1¼ weaker at $19⅝.

America Online, the online service provider that switched from the Nasdaq to the NYSE last month, shed $3⅞ or 11 per cent at $31⅞. AOL warned in a filing with the Securities and Exchange Commission that growing competition from Internet service providers might affect its results.

Yesterday's sell-off also hit some of the smaller companies in the sector that had begun to make headway after a difficult summer.

US Robotics, the modem maker, gave up $1⅞ at $63, Iomega, a maker of high density disk drive slipped $1⅛ or 5 per cent to $23¼ and E*Group, an electronic broking house that went public in August, shed $2⅛ or 18 per cent at $10⅞.

Elsewhere, Coca-Cola gave up $1⅛ or 2 per cent at $49⅝ after announcing a series of charges that would offset a previously announced series of gains for the third quarter.

Shares HCIA, a healthcare information systems company, plummeted $28⅝ to $31⅞, a decline of 47 per cent. The company, which has seen its shares more than triple since the start of the year, gave a profits warning. It said its third quarter earnings would be significantly below those made in the same period a year ago.

TORONTO ended three sessions of declines with a modest mid-session rally and at noon the 300 composite index was showing a gain of 25.23 to 5,316.30.

Golds, hit hard lately by a weak bullion price, led the way up. The gold mining sub-sector put on 1.4 per cent. Banking and forestry sectors both made good progress. Real estate continued to wilt.

Alcan gained 40 cents to C$41.10 and Seagram put on 20 cents to C$50.95. Northern Telecom dipped 30 cents to C$78.20.

Royal Bank of Canada added 25 cents to C$39.05 and Toronto Dominion Bank 20 cents to C$27.85.

Caracas pushes ahead

Leading Latin American markets made a steady start to the new month and by mid-session the majority of the region's bourses were showing comfortably on the upside.

CARACAS continued to provide the main drive and by noon the IBC index was 1.26 per cent ahead and showing signs of wanting to extend the recent rally to eight straight days.

The index closed the morning up 69.06 at 5550.96.

MEXICO CITY, down modestly on Monday, opened with further falls but there was good support around the middle of the morning and by the noon calculation the IPC General index was 15,300 ahead at 3,251.62.

BUENOS AIRES also moved ahead during the morning, closing the opening session with the Merval index 0.46 higher at 559.32.

SAO PAULO was said to be subdued ahead of tomorrow's municipal election. "The market is still searching for a clear lead," said one trader.

However, by the end of the morning session the Bovespa index was 98 better at 64,567.

South Africa rallies strongly

Shares in Johannesburg rebounded briskly during an active afternoon session and at the close the overall index was 18.2 higher at 6,896.2.

Industrials gained 3.5 to 8,134.1 but it was golds that staged the strongest recovery, closing 23.5 higher at 1,677.2.

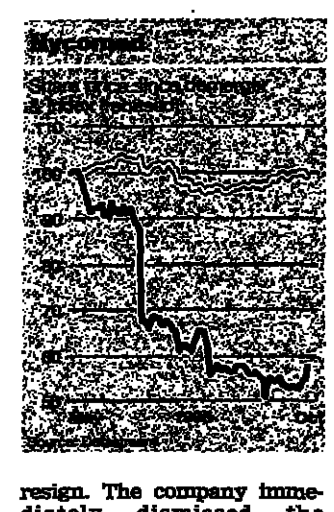
Dealers claimed to be slightly puzzled by the upturn. The bullion price showed some resilience during the afternoon fixing, but the main drive appeared to come from bargain hunting and institutional buying of index baskets.

Dries added R1.40 to R51. Among non-golds, Cadbury Schweppes gained R5 to R70.

Frankfurt subdued, Stockholm climbs peak

EUROPE

Further solid progress for German industrial production and an uptick for bonds failed to support **FRANKFURT** where activity remained subdued ahead of tomorrow's holiday closure.



There was positive news from the economy with industrial production in August continuing to expand steadily. But Wall Street had a dull early session, and dealers said that there were signs of book squaring in advance of tomorrow's shutdown.

They described the session as a day of consolidation at the higher levels. At the close, the DAX index stood at an Ibis-indicated 2,654.34, down 1.15.

Degussa provided some modest fireworks, surging almost 3 per cent after a strong trading statement from the chemical and metals group. The shares jumped DM16 to DM568.50 in good volume.

Good nine-month sales and news of a land-mark car engines joint venture with Chrysler of the US lifted BMW by DM5 to DM878.5.

STOCKHOLM was propelled to an all-time high by a 2.8 per cent jump in Astra, the pharmaceutical group, on rumours that the chief executive was about to resign. The company immediately dismissed the rumour as baseless, but the shares rose SKr6.50 to SKr286.50.

The Affärsvärlden general index was marked 24.2 higher at 2,115.5.

Elsewhere, Handelsbanken picked up SKr3 to SKr166 as it dismissed recent suggestions of a merger with S-E-Banken, which gave up SKr1 to SKr57.

HELSINKI hit a 12-month high and the Hex index finished 12.10 ahead at 2,186.24.

Merita led a rally in banks, rising FM0.68 to FM10.60 in heavy trade after a London investor completed the sale of a large tranche of the shares, reducing immediate supply. OKO tracked Merita, adding FM0.50 to FM43.50 while Alandsbanken rose FM0.70 to FM81.70.

Insurers extended last week's gains on talk of a restructuring in the sector. Sampo rose FM14 to a two-year high of FM344.

Metal industry shares were boosted by optimistic comments by industry executives. Rautaruukki, the steel group, rose FM1.20 to a year's high of FM41.20.

Finnlines, the cargo shipping company, rose FM1 at FM97 in heavy trade but analysts were unable to account for the activity.

OSLO was pulled higher by positive performances by a number of large groups, while Aker, the engineering and offshore group, and Resource Group International, the investment group, were both marked lower after their unexpected merger announcement. The Total index finished 5.95 higher at 845.80.

Nycomed, the pharmaceuticals group, rose strongly on rumours that it might be taken over by Switzerland's Roche or by an unnamed German group. The shares picked up NKr5.50 to NKr81.50.

Norsk Hydro rebounded NKr4.50 to NKr309 after Monday's declines which followed the company's comments on the outlook for second half profits. Aker dipped NKr1 to NKr131 and RGI lost NKr5 to NKr61 on their merger plan.

FTSE Actuaries Share Indices

THE EUROPEAN SERIES

Oct 1 Hourly changes	Open	10.30	11.00	12.00	13.00	14.00	15.00	Close
FTSE Eurotrack 100	1728.23	1729.14	1729.66	1730.06	1729.80	1730.55	1731.24	1731.72
FTSE Eurotrack 200	1787.78	1787.79	1788.54	1788.26	1787.86	1788.75	1789.64	1789.94

	Sep 30	Sep 27	Sep 26	Sep 25	Sep 24
FTSE Eurotrack 100	1724.86	1723.44	1718.77	1711.38	1698.31
FTSE Eurotrack 200	1780.43	1777.16	1767.69	1760.57	1749.99

Base value 1000 (26/10/90); High/day: 100 - 1732.01; 200 - 1789.98 Low/day: 100 - 1727.70 200 - 1786.45. † Partial.

PARIS traded narrowly to close marginally lower. The CAC-40 index, which swung gently within a range of just 10 points throughout the session, ended off 9.60 at 2,123.21.

Dealers said there were unmistakable signs of profit-taking in some stocks after the recent strong run for the market, but that in general the broad mood remained confident.

Sanofi topped the day's performance charts, rising more than 3 per cent following the registration of its new hypertension drug, Irbesartan. The shares put on FFr12.80 to FFr436.

Accor, which is seeking a new chief executive, rose FFr3.30 to FFr438.8 after press speculation that the hotels group was about to poach a joint managing director of Generale des Eaux. The latter dipped FFr6 to FFr555.

Lagardere, down 2.8 per cent during the morning session, ended off 40 centimes at FFr127.10 on talk that the group had failed in its bid for a big German defence order.

Usinor Sacilor gained FFr1.30 to FFr81 after the steel maker pinpointed an improvement in real demand for steel in 1997.

MILAN took offence at remarks from Mr Jacques Chirac, the French president, doubting that Italy would be among the first countries to join a single European currency. However, shares recovered from their lows after a robust response from the treasury minister, Mr Carlo Azeglio Ciampi. The Comit index lost 6.69 to 629.10 while the real time Mibtel index recovered from 10,034 to finish 102 down at 10,074.

Olivetti again came under renewed pressure after figures released on Monday night showed a sharp deterioration in its financial position. The shares fell L33 to L528.4 after a low of L515.

ZURICH consolidated Monday's gains and the SMI index finished just 1.1 higher at 3,787.5 as foreign demand for pharmaceuticals supported the market.

Roche, SFr15 higher at SFr9,250 was supported by a broker's recommendation while Ciba and Sandoz, which plan to merge into Novartis, hit new highs for the year at SFr1,610 and SFr1,515 respectively.

Winterthur lost SFr11 at SFr763 as the insurer announced first half group net profits at the lower end of expectations.

AMSTERDAM was lower having probed new highs earlier in the session. The AEX closed at 576.85, down 0.03.

Hoogovens moved up strongly, advancing Fl 1.40 to Fl 62.70 following an upbeat statement from its rival European steel maker, Usinor Sacilor.

TEL AVIV closed lower as investors remained sidelined ahead of the start of a Middle East summit in Washington. The Mishtanim index fell 2.63 to 184.09.

Written and edited by Michael Morgan and Jeffrey Brown

Nikkei turns back to end five-day winning streak

ASIA PACIFIC

Shares in **TOKYO** turned lower after a five-day rally that took the index more than 400 points higher, *writes Gwen Robinson.*

The Nikkei 225 index lost 93.43 to close at 21,462.97 after moving between 21,430.23 and 21,563.69. Foreign investors were net sellers of semiconductor-related issues.

Banking, steel, shipbuilding, and real estate related stocks also came under selling pressure, but construction shares rose on expectations that the forthcoming national election would result in new spending on public works.

The Topix index of all first section stocks lost 4.64 points, or 0.29 per cent, to 1,622.91, while the capital weighted Nikkei 300 index dropped 0.80 at 304.07. Volume rose to an estimated 340m shares from Monday's 274m shares.

In London, the ISE/Nikkei 50 index rose 0.63 to 1,466.52.

In spite of the setback, traders noted a positive shift in the market mood. They also pointed out that much of the robust buying by foreign investors in recent sessions was due to reinvestment after the selling sprees of July and August.

The recent upbeat preliminary figures for August industrial output led to demand for stocks like Toyota Motor, which gained Y20 to Y2,870. Honda Motor put on Y20 to Y2,820.

Semiconductor-related issues and real estate companies, all heavily bought in recent sessions, ended lower. Toshiba shed Y5 to Y766 and Oki Electric Industry lost Y13 to Y750. Mitsubishi Estate dropped Y10 to Y1,520.

Large-capital steels mostly lost ground. Nippon Steel edged down Y1 to Y345 and Sumitomo Metal Industries retreated Y5 to Y311.

Construction-related stocks were the day's clear winner, rising steadily on hopes for an upturn in public works spending after the October 20 election. Shimizu rose Y10 to Y1,110 and Obayashi added Y4 to Y918.

In Osaka, the OSE average fell 19.66 to 22,248.24 in volume of 53.6m shares.

HONG KONG maintained its upward momentum, demonstrating resilience as some investors took profits. The Hang Seng index rose 18.79 to another 31-month closing high of 11,921.22 in turnover that picked up to HK$5.1bn.

US demand took Hang Seng Bank to an all-time high of HK$83.25, up HK$1.25.

SINGAPORE took is lead from weak property stocks, pressured by reports of softening rentals in both the residential and commercial sectors, and the Straits Times Industrials index slipped 5.47 to 2,171.69.

Dealers said that brokers were also lowering full-year earnings forecasts of Singapore companies after a dull first-half reporting season which just ended.

WELLINGTON moved ahead on the back of foreign based buying to retrace two-thirds of Monday's sell-off. The 40-Capital index recovered 22.30 to 2,212.56.

"The market is now back to where it was a week ago. These sort of day-to-day fluctuations are just the sort of bumpy ride that can be expected in the run-up to a general election," said one broker. New Zealand goes to the polls on October 12.

NZ Telecom gained 13 cents to NZ$6.85 and Carter Harvey Holt added 9 cents to NZ$3.24.

KUALA LUMPUR was little changed in thinner trading than the recent average, with fund managers showing only selective demand in infrastructure related stocks. The composite index eased 0.31 at 1134.96.

Aokam, the logging company, lost 16 cents at M$4.02 after posting a massive M$145m loss for the year ended June 30 1996.

Ekran, however, added 30 cents to M$11.10 on results that were significantly boosted by fees related to the Bakun hydro-electric dam project.

SEOUL encountered selling pressure from domestic institutions, while foreign investors selectively picked up newly available shares, as the foreign shareholding ceiling was lifted to 20 per cent from 18 per cent. The composite index eased 0.20 to 789.47.

Samsung Electronics was a strong target of foreign buying, ending Won2,200 higher at Won67,000.

SYDNEY closed off it lows after a late afternoon uptick for industrial stocks which bounced on hardening interest rate cut hopes. The All Ordinaries index finished 4.9 lower at 2,285.5.

Resource stocks moved down sharply, but industrial shares made modest gains and at the finish the All Industrials index up 8.6 at 3,552.2.

BANGKOK ended lower after active profit-taking, although turnover at Bt6.7bn was roughly half Monday's levels. The SET index ended 13.37 down at 1,085.64.

The SET jumped almost 5 per cent on Monday following the weekend news that a general election had been called for November 17.

Brokers said profits were taken yesterday in spite of a better than expected inflation number for August.

Financial stocks topped the activity charts, notably General Finance which ended Bt3.50 higher at Bt72.50.

TAIPEI closed cautiously higher after First Commercial Bank announced a cut in prime lending rate. The index added 9.05 to 6,513.73.

There was strong buying of electronics. Megamedia rose the daily seven per cent limit to T$35.9. Acer gained 30 cents to T$41.7.

However, brokers remained concerned at margin loans levels which hit a three-month high of T$216.2bn on Monday and sparked worries about excessive speculative buying.

FT/S&P ACTUARIES WORLD INDICES

The FT/S&P Actuaries World Indices are owned by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS Figures in parentheses show number of lines of stock	Monday September 30 1996 US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	Friday September 27 1996 US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Dollar Index 52 week High	52 week Low	Year ago (approx)
Australia (78)	207.18	0.2	196.46	145.86	164.29	174.13	0.2	4.37	206.80	196.07	144.86	163.88	173.71	212.18	179.77	185.82
Austria (24)	178.94	0.5	169.68	125.98	141.89	141.78	0.6	1.98	178.00	168.76	124.68	141.06	140.95	195.04	168.11	180.67
Belgium (27)	216.69	-0.4	205.48	152.56	171.83	167.74	-0.4	3.98	217.57	206.28	152.41	172.42	168.37	218.69	190.88	195.61
Brazil (28)	181.55	0.0	172.16	127.81	143.97	341.20	-0.0	1.90	181.62	172.20	127.22	143.93	341.20	189.70	123.97	152.53
Canada (117)	169.32	-0.1	160.56	119.21	134.27	167.03	-0.2	2.13	169.53	160.73	118.76	134.34	167.42	169.95	134.14	144.53
Denmark (30)	320.69	0.2	304.10	225.77	254.30	255.44	0.3	1.80	320.15	303.53	224.25	253.70	254.77	321.85	276.89	282.30
Finland (23)	*213.54*	*0.0*	*202.50*	*150.34*	*169.34*	*204.70*	*0.2*	*2.44*	*213.53*	*202.45*	*149.57*	*169.21*	*204.30*	*265.87*	*171.73*	*265.87*
France (93)	197.59	0.9	187.37	139.11	156.69	159.97	1.1	3.04	195.86	185.70	137.20	155.21	158.28	198.39	167.70	172.85
Germany (58)	177.27	-0.3	168.10	124.80	140.57	140.57	-0.2	1.74	177.83	168.60	124.57	140.92	140.92	179.28	155.66	159.47
Hong Kong (59)	452.38	1.3	428.97	318.48	358.73	449.13	1.3	3.40	446.50	423.33	312.76	353.83	443.31	452.38	354.67	376.42
Indonesia (27)	204.81	-0.1	194.22	144.19	162.41	291.69	0.0	1.72	205.02	194.38	143.61	162.47	291.63	–	–	–
Ireland (16)	*303.00*	*0.0*	*287.32*	*213.31*	*240.27*	*266.58*	*0.0*	*3.37*	303.06	287.35	212.30	240.18	266.52	303.06	241.27	249.46
Italy (58)	79.56	0.0	75.44	56.01	63.09	90.43	0.0	2.38	79.59	75.46	55.75	63.07	90.46	84.53	67.22	76.25
Japan (481)	147.57	-0.2	139.94	103.89	117.02	103.88	0.3	0.74	147.81	140.14	103.54	117.14	103.54	164.68	137.75	147.76
Malaysia (107)	566.68	0.5	537.34	398.94	449.35	547.02	0.5	1.20	563.86	534.41	394.82	446.67	544.44	585.09	425.77	495.99
Mexico (19)	1239.33	0.5	1175.21	872.51	982.77	10230.41	0.6	1.31	1233.12	1169.13	863.77	977.20	10166.26	1326.65	791.99	1092.12
Netherland (18)	302.98	0.9	287.29	213.29	240.24	236.59	0.9	3.11	300.30	284.72	210.35	237.98	234.35	304.24	251.61	259.42
New Zealand (15)	84.94	-2.1	80.54	59.80	67.35	64.49	-2.0	4.25	86.80	82.29	60.80	68.78	65.78	87.62	75.94	78.83
Norway (35)	251.32	-1.0	238.31	176.93	199.29	221.78	-0.9	2.30	253.79	240.62	177.77	201.12	223.86	256.94	222.24	238.98
Philippines (22)	201.20	-1.3	190.79	141.65	159.55	263.06	-1.4	0.61	203.87	193.30	142.81	161.56	266.70	–	–	–
Singapore (44)	404.27	0.2	383.35	284.61	320.58	262.33	0.2	1.06	403.31	382.38	282.51	319.61	261.71	465.21	361.84	371.40
South Africa (44)	342.48	-1.3	324.76	241.11	271.58	339.59	-1.3	2.25	347.11	329.10	243.14	275.07	344.02	437.76	314.20	361.67
Spain (37)	181.09	0.3	171.72	127.49	143.60	176.16	0.6	3.33	180.47	171.10	126.41	143.01	175.20	183.85	145.15	151.01
Sweden (48)	378.13	0.0	358.57	266.21	299.85	370.80	-0.1	2.31	378.22	358.59	264.93	299.72	371.26	378.22	294.19	320.43
Switzerland (37)	243.61	1.2	231.00	171.50	193.18	189.83	1.0	1.66	240.82	228.32	168.69	190.84	187.51	254.34	215.21	215.21
Thailand (45)	146.69	6.2	139.10	103.27	116.32	144.71	6.2	2.37	138.09	130.92	96.73	109.43	136.22	193.95	128.90	163.05
United Kingdom (200)	249.43	0.1	236.53	175.61	197.80	236.53	0.1	4.04	249.24	236.30	174.58	197.51	236.30	250.30	220.85	224.72
USA (623)	280.25	0.2	265.75	197.30	222.23	280.25	0.2	2.12	279.79	265.27	195.99	221.72	279.79	280.25	236.38	239.12
Americas (787)	256.23	0.1	242.97	180.39	203.18	215.42	0.1	2.11	255.84	242.56	179.21	202.74	215.10	256.23	215.17	218.62
Europe (705)	218.38	0.3	207.08	153.74	173.17	190.41	0.3	3.01	217.77	206.47	152.54	172.58	189.82	218.38	191.44	195.12
Nordic (136)	322.92	-0.1	306.21	227.34	256.07	278.52	-0.1	2.25	323.19	306.42	226.38	256.11	278.81	323.19	261.13	295.02
Pacific Basin (878)	*162.15*	*0.0*	*153.76*	*114.15*	*128.59*	*115.74*	0.4	1.20	162.11	153.70	113.56	128.47	115.26	177.01	148.86	158.25
Euro-Pacific (1583)	185.44	0.1	175.85	130.56	147.05	143.93	0.4	2.09	185.17	175.56	129.71	146.74	143.40	190.57	168.51	173.51
North America (740)	273.48	0.1	259.33	192.54	216.87	272.74	0.1	2.12	273.07	258.90	191.28	216.40	272.34	273.48	230.17	233.27
Europe Ex. UK (505)	196.73	0.4	186.55	138.50	156.01	163.56	0.4	2.44	195.96	185.80	137.27	155.29	162.85	196.73	170.51	174.93
Pacific Ex. Japan (397)	293.61	0.7	278.41	206.70	232.82	253.28	0.7	2.93	291.58	276.43	204.23	231.05	251.49	296.66	243.59	258.26
World Ex. US (1791)	186.98	0.1	177.30	131.63	148.27	148.67	0.3	2.09	186.77	177.08	130.83	148.01	148.21	191.55	167.36	174.50
World Ex. UK (2214)	212.79	0.1	201.78	149.81	168.74	181.52	0.3	1.90	212.49	201.46	148.84	168.39	181.04	213.05	185.61	191.32
World Ex. Japan (1933)	252.90	0.2	239.82	178.05	200.55	239.28	0.2	2.47	252.36	239.26	176.77	199.96	238.74	252.90	217.26	220.40
The World Index (2414)	215.97	0.1	204.79	152.04	171.26	186.51	0.2	2.10	215.66	204.48	151.08	170.92	186.04	215.97	188.67	194.25

CONSTITUENT CHANGES with effect 1/10/96: name changes: Nippon Denso to Denso Corporation; New Oji Paper to Oji Paper Co Ltd (Japan). Latest prices were unavailable for this edition.

FINANCIAL TIMES REVIEW

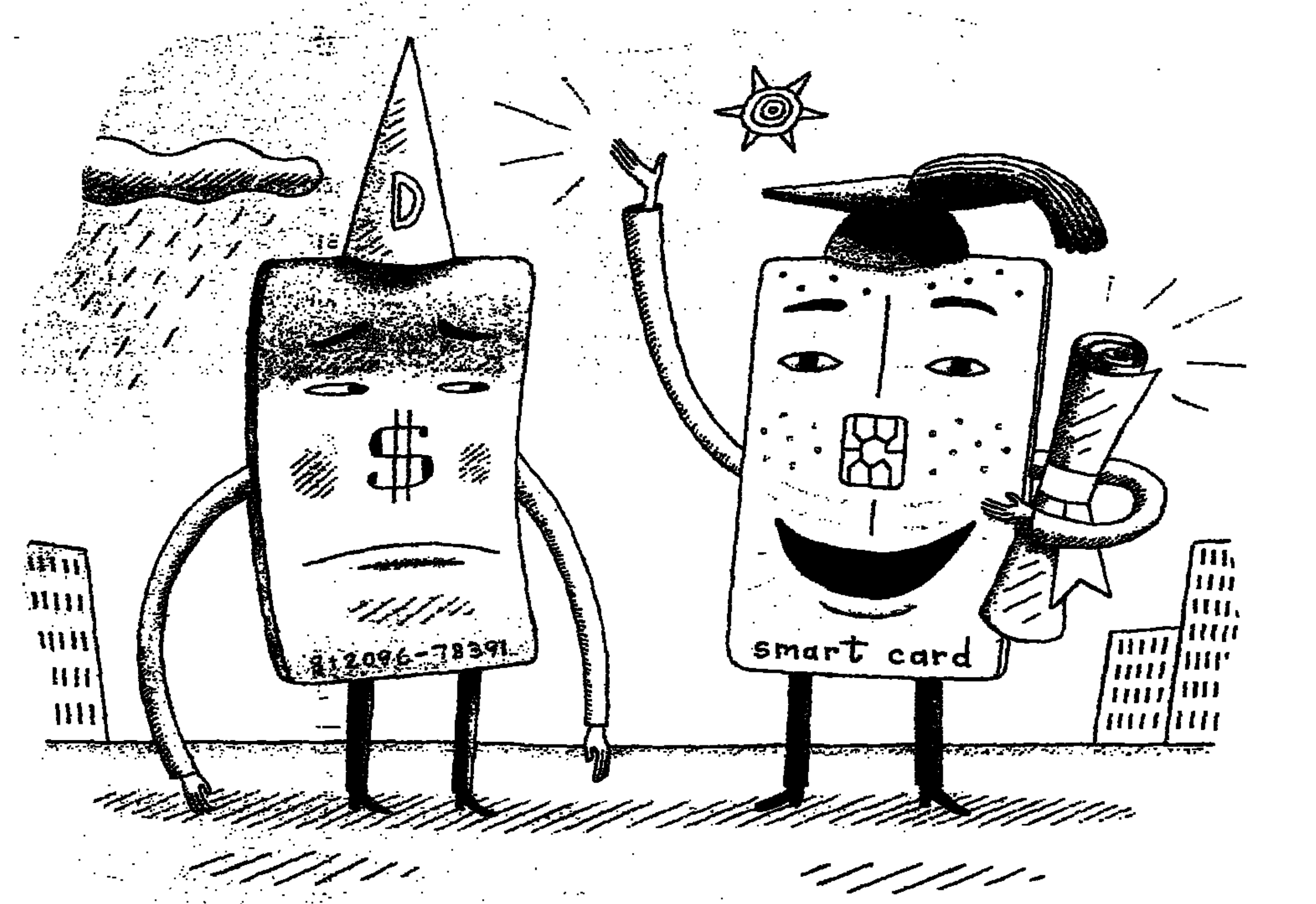
Information Technology

Wednesday October 2 1996

Smartcards: a technology whose time has come

There is an explosion of interest in powerful new smartcards which can store cash and financial records, function as a loyalty card or travel card, keep personal medical data, and provide a secure 'electronic identity', report

Paul Taylor in London and Tom Foremski in San Francisco



Smartcards – plastic cards with tiny microprocessors and memory built into them – have been around in Europe for almost 20 years and were first introduced as replacements for traditional magnetic stripe cards in the French banking system during the 1980s.

But now it seems, smartcards are a technology whose time has finally come. Customers prefer them to pockets of loose change, retailers appreciate the added security and convenience, while financial institutions see smartcards as one means to help them retain a role in the electronic marketplaces of the future such as the World Wide Web.

Today, there are about 23m smartcards in circulation in France, for example, where they are mostly used as automated teller machine (ATM) cash cards or credit cards. However, promoters of the technology believe that while smartcards – or chip cards – can indeed be used as a convenient replacement for cash, they are rapidly evolving into a much more useful technology.

For example they can store an owner's medical data, execute sophisticated security schemes, store a record of cash transactions, and function as a loyalty card, giving retailers better feedback on customer spending habits.

The latest smartcards pack the processing power of an early personal computer such as the Apple II and, using data compression, can store as much information as several dozen sheets of closely-typed A4 paper.

Although they still cost about ten times as much as ordinary magnetic stripe cards, they last longer, can store about 80 times as much information and, since they can process as well as store information, are much more flexible.

They have recently found their way into GSM digital mobile telephones, satellite television set-top boxes, and the social security system. In Spain where 40m smartcards are being issued as part of a $400m project to replace existing paper-based documents covering pensions, social security payments, employment and health.

Now, with the growth of electronic commerce, mounting concerns about credit card fraud and the increasing need for a single 'electronic identity', it seems that we may soon be swapping wallets full of relatively 'dumb' plastic for increasingly powerful smartcards.

Datamonitor, the market research group, predicts that there could be billions of smartcards in circulation worldwide by the end of the decade, sporting semiconductor chips manufactured by the market leaders, Motorola of the US, Siemens of Germany and SGS Thomson of France.

This expected surge of interest in smartcard technology should also be positive news for the leading smartcard suppliers which include Gemplus, Sollac, Orga, Giesecke & Devrient and Schlumberger.

In Britain, the Association for Payment Clearing Services (Apacs), which oversees money transmission and manages payment clearing systems on behalf of the UK's leading banks and building societies, plans to introduce smartcards from the end of next year.

"It is envisaged that all ATMs [cash machines] and 50 per cent of the UK's point-of-sale terminals will be smartcard-based by the year 2,000 with 90m cards in circulation," according to Bossard Consultants, the European consultancy.

Apacs' members believe smartcard technology – which can incorporate biometrics security features such as fingerprints – will help them combat the rising costs of credit card fraud. In France, the use of smartcards with a personal identity number, cut the costs of fraud from around $4 - $5 per card in 1992 to almost nothing today.

Smartcard manufacturers, such as Philips Semiconductors, are producing cards that have sophisticated encryption technology built-in. This allows for increased security, making it almost impossible for third parties to decode the encrypted smart card information.

Such smartcards could also be used to purchase products from retailers on the Internet. Computers and telephones equipped with smartcard readers have already been developed making it much easier and more secure to order and pay for goods on-line. The cards would provide verification details and payment authorisation.

In another indication that smartcard technology has finally come of age, Microsoft announced last month that it will make future generations of its PC operating systems 'smartcard aware'.

Meanwhile, the advantages of using so-called 'stored-value' smartcards to handle large numbers of low-value transactions have also been demonstrated on both sides of the Atlantic.

Visa has estimated that there are $8,100bn of cash transactions each year in the world's top 29 economies and the banks estimate that using cash costs Europe about £45bn a year.

In the UK, the two-year old trial of the Mondex electronic cash scheme in Swindon, originally backed by NatWest, Midland Bank and British Telecommunications, produced mixed results but nevertheless proved the acceptability of smartcards.

The trial also demonstrated how retailers can save a lot of money on the costs they incur in handling cash. Instead of having to count cash, store it in a secure location, then transfer it to a bank, with all the potential for human error and possible security problems along the way, a simple swipe of a smart card transfers cash directly into a retailer's bank account.

During the Atlanta Olympic games, Visa and Mastercard offered thousands of people a smart card that could be used at hundreds of local retailers. Visa Cash cards, Visa International's smartcard, were used for over 200,000 transactions representing $1.1bn during the 18-day games and proved popular with consumers.

Commenting on the Olympics trial, Mr Stephen Schrapp of Visa's European operations, says: "It confirmed three main points: first, and most important, consumers like it as indicated by the research and actual transaction figures.

"Second, with average transactions of $50, it is opening up brand new markets for our members. And third, having put the technology through a very demanding and high profile test, we know it works."

High potential for the use of smartcards in the US is highlighted by Mike Nash, vice president of marketing for the Smart-Card Group at Amdahl, the US computer systems and services company – "we're offering banks a way of easily supporting smartcard transactions without the worry that they may be tied to a cash card system that loses out to a different scheme."

Amdahl is offering consulting services and systems to banks interested in modifying their computer systems to handle smartcard-based transactions. Nash says there are three key areas of interest in the US: stored-value cards, loyalty schemes, and cards for storing medical and health information.

"The ideal would be to have a multifunction smart card that can be used in different applications. As a cash card, for access to financial services, a mass transit card, storing medical data and also as a credit card with sophisticated security features," he says.

Although there is work on standards that would create the foundation for such a multifunction card, Nash says he is not hopeful of the outcome, and that the reality will be that consumers will probably have to carry several smartcards for different uses.

One area where a standard is necessary, is in the development of a terminal that can process credit cards, as well as smart-cards. "Merchants don't want to have several different terminals to process different card payments. They want one terminal that can handle both smart card and credit cards," adds Nash.

At the same time, smartcard chip manufacturers are working on cards that do not need conventional card readers. For example, Philips is using wireless technology to transfer smartcard stored data to a reader.

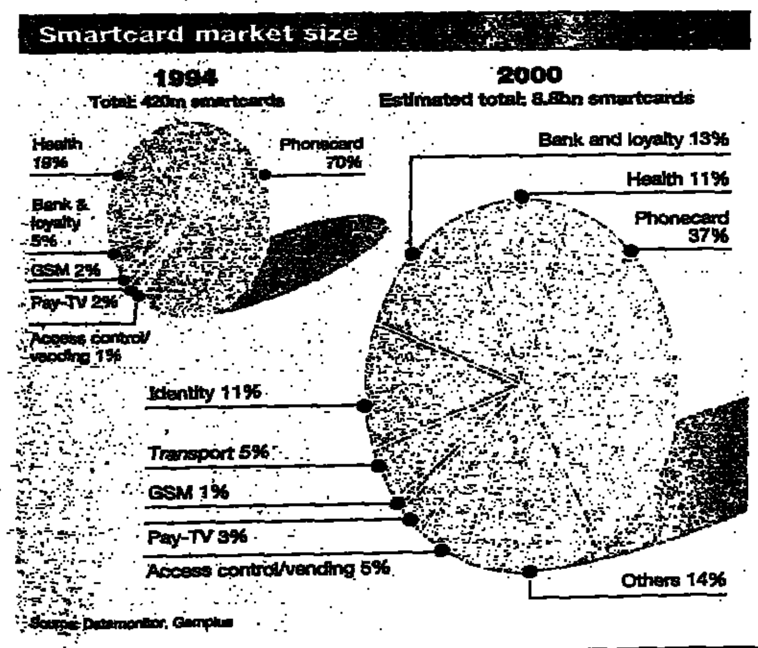
"These are passive wireless smartcards and are useful in applications such as mass transit, where there are hundreds or thousands of people passing through a specific point. It would be impractical to expect users to pass their cards through a physical reader. With passive wireless smartcards, they can leave their cards in their pockets and the readers will pick up the information," says Kees Hage, general manager of Philips' smart cards group.

These wireless smart cards are being used in Seoul, Korea, where about 600,000 bus passengers each day pay for their trips using the Philips cards. Such cards are about twice as expensive as regular smart cards but in key applications, the extra cost pays for itself in the convenience and other savings it offers.

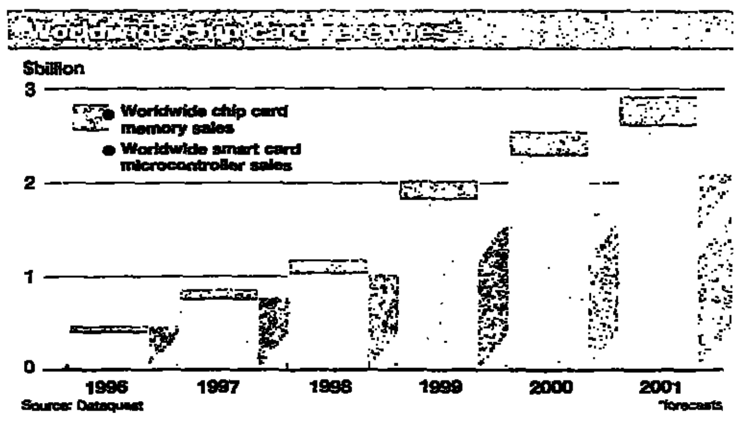
Kees points out that the wireless smart cards only have an effective range of about three feet because they do not contain their own power source, but future versions will have a larger range and will find new kinds of applications.

Indeed, as smartcard technology becomes more powerful and costs continue to fall, there seems little doubt that their usage will grow – "we are seeing an explosion of interest in the technology," says Motorola's Mr Hughes.

Smartcard market size



Source: Datamonitor, Gemplus



Source: Dataquest *forecasts

■ Interview with James Barksdale • By Paul Taylor

'Microsoft would like to squash me just like a bug'

Jim Barksdale, president and chief executive of Netscape Communications, is no stranger to competition. Netscape pioneered the fast-growing market for Internet 'browser' software with its 'Navigator' programme, but rivalry from Microsoft, the software giant, is intense

Two weeks ago, in the midst of the so-called 'browser wars', the US Justice Department agreed to re-open its investigation of Microsoft, the world's largest software group. The move came after Netscape Communications, the Internet software pioneer, accused its main rival in the Internet and intranet market, of "far-reaching anti-competitive behaviour".

Netscape's willingness to go into battle with the Microsoft marketing machine, reflects the determination of Jim Barksdale to defend Netscape's position in the fast-growing corporate market for software based on Internet standards.

Although Netscape currently dominates the market for browser software, Microsoft has closed the technological gap since Bill Gates, Microsoft's chairman, declared last November that the Internet would be at the core of all future Microsoft developments.

Gates has made no secret of his ambition to wipe out Netscape. The Microsoft chairman and chief executive is on record as predicting that his company will make Netscape's lead in the explosive Internet market, "moot". In spite of this, 52-year-old Mr Barksdale – no stranger to tough competition, having previously held top positions at AT&T Wireless Services, McCaw and Federal Express – declares that Netscape remains confident about the future.

Speaking before the Justice Department intervention, Mr Barksdale readily acknowledged that Netscape faces competition in particular from Lotus Development, now part of International Business Machines, and Microsoft.

"We have a high regard for both of them, great respect and a lot of good friends in both. In fact, I used to work for IBM 100 years ago," he says, smiling. "We think we have a very good competitive position against such formidable companies.

"Basically, from day one we have felt we could take this marvellous new type of open standard software called Internet software and use it for many things. One of the most obvious to us is to build what are now called 'intranets'. This is the ability to communicate across the company and to use the *products for collaborative* information sharing, as well as communications, publishing and documentation.

He says Netscape's "basic competitive thrust is best-of-breed products for intranets at best price," and claims that Netscape's core corporate product, SuiteSpot, works out considerable cheaper 'per-seat' than the competition, but he also believes there is plenty of room for all companies to grow.

"This is a new market for all of us. We are just trying to grow at the rate of the market. It's not a staid market where we have to take away share from the other guy to be successful.

"So far, we have been successful and, quite frankly, I'm more bullish about our product line-up now with SuiteSpot and new products in our intranet server line-up and per-seat pricing, than I have ever been."

Netscape is already the fastest-growing software 'start-up', but can it expect to earn the same margins in the open software world as some of its rivals?

"I don't think we or anyone in this space of open software should exspect monopolistic returns," says Barksdale. "But I *do* think we can have very, very nice margins. *I have* the additional advantage that I can now distribute my products on the Internet and I can trial-use them on the Internet without having to spend very much money at all to distribute, to market to sell or to collect – all of which are *infrastructure costs.*"

In addition, he notes: "We have no 'baggage' to carry with us and no backlog to protect, and so from that perspective we have an advantage. We don't have an overwhelming advantage but we have the best products at the best price."

For the moment, Netscape still has a huge lead in the browser market, but Barksdale says it is "not terribly important" to maintain an 85 per cent market share. "We look at market-share as a sort of inventory or backlog if you will. The reason for having high share is so you can give away share in a pitched battle. It is your reserve. I would rather start in a fight with 85 per cent share than 25 per cent share.

However, he also acknowledges that it is important to keep a large share, "because that is the image of the company and that is the product that the user sees, and many of these users – who may be using our product at home – are the same IT buyers who go to work. We want them to have a good perception of our product."

Barksdale says Netscape's customers' main concerns are about his company's viablity, about not getting locked into proprietary systems and about Internet security.

He emphasises that Netscape offers open software that runs on a multitude of platforms which makes it much easier for buyers to make decisions. "If you are wrong, since it is open software, *you have a low switching cost.* So you have the least risk of any vendor you have ever done business with. The proof of all this is whether or not they buy the products: 'chitty chats' are not a lot of interest to me. They are buying our product at a very fast clip. Companies deploying tens of thousands of 'seats' of a very new product is almost unheard of because it fits a need and it rings a bell."

He also has strong views on the security of the Internet: "The fact is the Internet *is* secure. The problem quite frankly is that we in the industry have not done a good job of convincing people of *its security. There is* far more risk giving your credit card number over the *telephone and how do you* know it's safe when you give it to a waiter?" he asks.

Barksdale: he also has strong views on the security of the Internet

"The fact is that not a dime has been lost on the Internet. Internet security depends on a public private key encryption technique that is now well-adopted and standardised, that is a very, very secure technique.

"*Would I use it though* for transferring the secrets of the world? No, I would use probably another kind of network. But the value of what is being transferred is so much less than the cost of cracking, the principle of any encryption technology or any form of security is that it will cost you more to get it than *it is worth.*"

He is also bullish on the prospects for electronic commerce, predicting that within a couple of years it will be a $1bn industry. But he also notes, "you can make money on the Internet by selling stuff or by saving money.

"For example, my old company, Federal Express. If you want to track a package over the Internet, you just type FedEx, give the package number and it will tell you *where* it is, *who* signed for it, *what* time it was delivered. So you no longer call them – that is saving FedEx $10m a year. That is making money on the Internet. That's serious, hard bottom-line stuff."

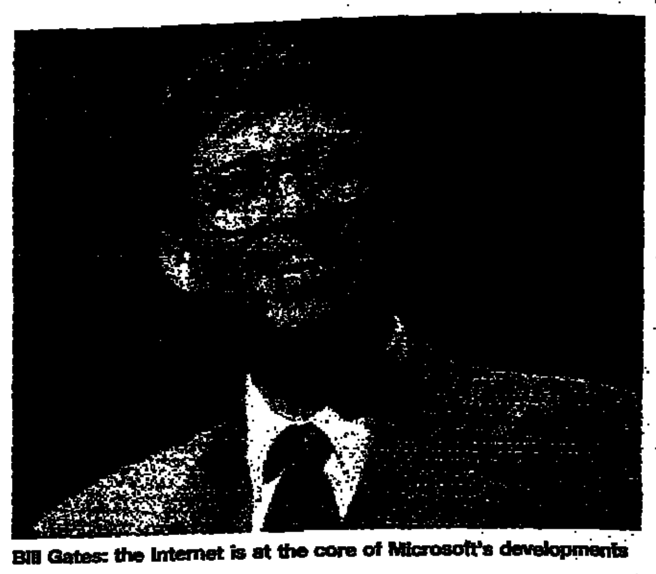
But he is generally wary of making predictions: "There are all sorts of things happening in the convergence in multimedia. The problem with technologists is they always *confuse* this clear view for a short distance. So when you ask me to predict *exact times, I am going to* resist the urge to sound like I know these unknowable things.

"But I do know this. There is definitely a convergence in the forms of media in a point-to-point communications environment.

"Basically, all of the broadcast media – from the printed book to the television – have been a compromise of media to cost. The Internet is a very effective way of reducing the cost, creating a far-reaching, ubiquitous service – just like the telephone."

He also believes that despite the focus on consumer issues, the main use of the Internet technology will be by businesses for the foreseeable future.

"The big opportunity in the next five years is intra-business communications within the business – and business-to-business. Communications and collaboration and open software are very big business."



Bill Gates: the Internet is at the core of Microsoft's developments

The Netscape chief executive does see some obstacles to the growth of Internet computing, but he rejects concerns about bandwidth or the Internet grinding to a halt. "There is plenty of capacity, it's just a matter of paying for it," he says. "Demand drives up supply."

He also believes the current model of fixed-pricing will survive.

"The Internet backbone is a step-variable cost, it's not a straight line variable cost, and I can assure you that it *can* exist because the world is awash with unused fibre. For every one 'lighted thread' in the world, there are something like nine unlit – and now, with ATM and faster switching technology, even the one being used runs at ten, twenty or fifty times faster than it did two years ago."

In terms of computer platforms, he says Netscape's primary concern is to ensure that its software will run on whatever types of device are in use. Netscape is a member of the consortium backing the idea of low-cost network computing devices.

"I want to encourage, help and promote it, but I'm not going to predict whether it's going to be there – and I have a feeling, quite frankly, *if this really takes off that* the PC will come down to meet it.

"The PC doesn't *have* to exist the way we know it. In other words, it will move towards this and the network computer will move up," but *he acknowledges,* "there have been other attempts at products like this which have not been successful."

He also firmly denies that Netscape's alliance with Sun Microsystems, Oracle and the other backers of network computing is an anti-Microsoft alliance.

"We don't have any backroom strategy working against Microsoft. I can't speak for the others, but we think that would be rather non-productive."

Nevertheless, he also notes that he came from a family of six boys: "I always did better in fights when my five brothers were with me than when I was alone. I understand that. We have more alliances with more companies in the last years and a *half* than you can shake a stick at."

He says he believes Microsoft "*wants to squash me* – like a bug." But he adds: "They can't squash me because I make better products at lower prices for the Internet and Intranet. That is my strategy against them – and I also have alliances with an awful lot of people who can market my products. But I don't think I can do much more than that."

□ Focus on California's IT industry: key role for the venture capitalists: see report on pages 12 and 13.

□ *Interview* with Phil White, chief executive of Informix: see page 17

■ Managing data: business objectives are being jeopardised, says new report

Concern over information overload

Information technology managers in both Europe and the US are growing increasingly concerned that they are not managing the growth of information across distributed computer systems effectively, according to a new report.

The study, *Managing Information Across the Enterprise: Information Growth Triggers Increasing Concerns*, which was commissioned by EMC, the largest independent supplier of storage systems, suggests that four out of every five international IT managers are either 'concerned' or 'very concerned' about their ability to manage growing volumes of information, *writes Paul Taylor.*

Managers also believe that high-level business objectives are being jeopardised as a result – objectives such as 'generating revenues' and 'increasing competitiveness' are becoming more critical, while 'lowering costs' is still important, but of less concern than in the study a year ago. Three-quarters of all IT managers also said they do not have adequate tools to manage information growth, but performance and response times have leaped to the top of the list of concerns.

Almost 70 per cent of respondents said they are organised, or in the process of organising, around information rather than technology, a strong indication that IT strategy is mainly focusing on using information to reach business goals.

"Businesses face enormous risk of damaging themselves by inappropriately managing their information and its availability," said Mr Phil Payne, UK market director for Sleven Consulting. "Emerging trends, such as electronic workflow between departments and companies, plus Internet-based business transactions, have increased the bottom-line cost of downtime and the inability to access information. These risks pose a much greater long-term impact on the overall health of a business than any previous IT challenges faced by these companies."

The survey, which was conducted by Find/SVP, a New York-based market research firm, and included interviews with 600 IT executives, divided equally between the US and Europe, highlights a number of other key concerns. Among them are:

□ Critical applications are moving quickly to open systems and, in turn, generating huge volumes of data which are not being properly managed. Online applications are the main source of this flood of new information, among these, database applications were mentioned by almost 90 per cent of respondents.

□ The shift towards consolidation of information and open servers in the data centre is gaining momentum. More than 80 per cent of respondents said servers are being moved back under the responsibility of the data centre and almost three-quarters favour some centralisation of either both applications and information.

□ Blocked information access, or 'information bottlenecks,' represent the next unsolved critical problem for data managers.

Copies of the report are available from Hunt Thompson, Tel (44) 171 872 5636.

FT IT

Fax-U-Back Information Service

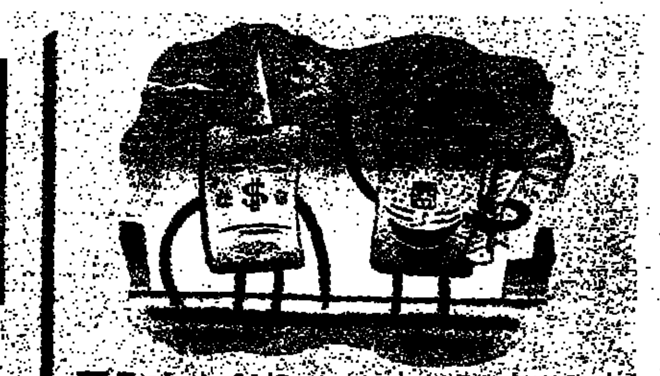
For details of forthcoming issues of the FT Review of Information Technology, UK callers may use the **FT-IT Fax-U-Back Service.** Details include editorial synopses of future issues and writers for various themes. The fax number to call is:

0990 209 903

For callers outside the UK, the fax number is *+44 990 209 903*

Technical note: If you have a handset on your fax machine, dial the Fax-U-Back number and press 'start' when instructed. Alternatively, the number can be dialled direct from the fax keyboard, followed by 'start'.
If callers have technical problems regarding this *service, telephone* 0171 873 4378. Callers from outside the UK should dial: +44 171 873 4378.

To obtain back copies of the review, call 0171 873 3324. Callers from outside the UK should dial +44 171 873 3324



FT Review of Information Technology

Editorial controller: Michael Wiltshire
Writers in this issue (volume two, number eight) include: Paul Taylor, IT Correspondent; Louise Kehoe, Philip Manchester, Michael Dempsey, John Kavanagh, Geoffrey Nairn, George Black, Chris Brown-Humes, Tom Foremski, Rod Newing, Penelope Ody and Andrew Baxter.

Graphics: Robert Hutchison and Steven Bernard
Illustrations: Michael Sheehy (cover), Roger Beale, John Springs.
Picture research: Patricia Lee and Matthew Glynn

Subscription service: readers in the FT-IT Review can now ensure they receive their own copy by post. Full details appear on Page 10 of this review.

The next issue, Wednesday November 6: This will include the following main themes:
Main focus: Technology in the Office
IT Directions: Intranet developments
Software: Sales and Marketing Systems
A special report on India's software industry will also appear with the November review.

The December 6 issue:
Main focus: Computing and communications for the smaller business, plus IT in the Home
IT directions: New Media
Software: Educational Packages and Games

For advertising details contact:

In London:
Simon Lister, Dominic Morgan, FT Advertising Department, telephone (+44) 0171 873 4129 or fax (+44) 0171 873 3062

In the US:
New York: Gavin Bishop, tel (212) 745 1382
San Francisco: Nick Mayle, tel (415) 837 9775

Financial Times, Number One, Southwark Bridge, London SE1 9HL

FT.com: the FT web site provides online news, comment and analysis at http://www.FT.com

■ How IT helps keep customers happy ■ By Penelope Ody

Successful retailers compete on value, not merely on price

In-store IT systems were once confined to clever cash registers. Now retailers seek ways to enhance customer-response and monitor purchasing patterns

The advanced NCR check-out system out at this Sainsbury Savacentre is linked to a data warehouse which allows the company to quickly measure sales performance for all products, plus sales patterns at its stores throughout the UK

Back in the 1980s when scanning systems and electronic point-of-sale (Epos) were still a novelty, retailers' use of information technology tended to involve counting things – goods sold, money taken, or items left on the shelf.

Today, the technological emphasis has shifted: instead of "things", preoccupation is with people – tracking shoppers as they enter the store, monitoring customers' purchasing patterns or giving them the technology to do it all themselves.

The retail pundits talk of "customer-facing" systems or "efficient consumer response", while "point-of-service" is replacing "point-of-sale", and "supply chain" is giving way to "demand chain" in the retail vocabulary.

In today's increasingly competitive high street, many retailers have realised that keen prices or promotional "loyalty" schemes are simply not enough: to differentiate themselves from the rest of the pack takes something extra.

As Dr Leonard Berry, the JC Penney Professor of Retailing Studies at Texas A & M University and one of North America's leading retail gurus argues, there is one question that all retailers should regularly ask themselves when it comes to considering their future success. It is quite simply: "If our company were to disappear from the landscape overnight, would customers really miss us?"

Those store directors who can honestly answer "yes", he suggests, are the ones where customer service levels are highest, rather than where prices are lowest.

"Retailers with a future compete on value, not solely on price," says Dr Berry. "Price is price, but value is the total experience."

That "total experience" is being enhanced by an assortment of leading-edge technologies that can range from use of radio systems for interrogating back-office computers and solving shoppers' queries on the shop floor, to the slick use of interactive media (in-store or in the home) to encourage repeat store visits and purchases.

In supermarkets, "self-scanning", where shoppers scan their own purchases rather than waiting for a checkout operator to do so, is seen not so much as a means of reducing staff as an improved customer service.

Here and on the next seven pages, FT writers examine the impact of IT in retailing

Safeway's "Shop and Go" service – which uses hand-held scanners from Symbol Technologies, originally developed with the Dutch chain, Albert Heijn (part of the Ahold group) – is being rolled out to more than 60 stores.

"The system has considerable appeal to our target market," says marketing director, Roger Partington, "especially young families for whom time is at a premium."

It is these customers for whom waiting in line at the checkout – with its tempting array of sweets and novelties – can be especially gruelling.

Somerfield, Waitrose and Superquinn in Ireland are among a growing number of retail chains piloting similar customer-operated systems.

Self-scanning systems had been trialled – unsuccessfully – more than 10 years, but it is only now as customers become familiar with high-tech systems that the concept seems to have taken off.

It has been much the same with multimedia which first had an airing back in the early-1980s using cumbersome 12 inch video disks. Numerous schemes have been tested since then and most have failed: notable exceptions include Florsheim's shoe-selling kiosks in the US or the Zanussi information boxes for white goods in the UK.

As with self-scanning, interactive media now seems to be gaining popular acceptance. In the US, consumer electronics retailer Best Buy has equipped stores with a dozen interactive kiosks offering information on some 65,000 CDs, 12,000 videos and 2,000 software packages as a valued alternative to more conventional shop assistants; meanwhile, Crate & Barrel has an easy-to-use application for purchasers: an interactive wedding list.

Elsewhere, there are now numerous wine selection systems and recipe kiosks, as well as applications aimed at the next generation of shoppers: typical is Daewoo – attacking the European market without a conventional network of car dealers – which has a children's "design a car" kiosk to keep the little ones amused while the parents concentrate on buying the real version through a neighbouring kiosk.

Many observers see these experiments as a simple stepping stone to selling direct to the home via interactive television or the World Wide Web – although even here not all experiments have been successful.

Michael Rollens, president of the New Media Network in the US is not alone in his critical opinion of current electronic shopping. He suggests that most "break the basic rules of retailing" with their limited merchandise ranges, erratic delivery and poorly thought-through concepts.

Many early entrants in the home shopping arena, such as Time Warner's Dream Shop, have already gone out of business, while others – such as IBM's World Avenue, comprising 20 retail "shops", and e-Shop Plaza, which has just been bought by Microsoft, are proving extremely slow to really take off.

"In general, the Internet is not a very exciting place to go shopping," says Mr Rollens. Such high profile developments apart, much of the customer emphasis of "retail IT" is concerned with fast identification of – and response to – changing patterns of demand.

Bill Gilmour, retail partner at Coopers and Lybrand, the management consultants, shows how "exploiting the data" can drive better business performance. He points to a formula: "'Customer traffic' multiplied by 'customer activity' equals sales, which when multiplied by gross margin gives you bottom-line profitability."

Loyalty cards are helping to boost what what analysts call "frequency of shop", especially in the food retailing sector. But in-store technology comes into play long before any purchases are made by measuring "customer traffic", using infra-red or video-tracking systems to monitor shoppers' movements, identifying "cold spots" in the store and helping to ensure adequate staffing levels in service-critical areas.

IT systems sort out "customer activity" helping to classify shoppers by "type of purchase" (categories include the "beauty conscious", "pet lovers", "sentimental", "casual drinker", "sports conscious" and "new families") and promoting goods that will appeal to them while in that frame of mind by product juxtapositions or related discount offers.

"Using these techniques," he says, "you don't need to know anything personal about the individual, just the mode of shopping they're in."

This portable personal barcode scanner allows customers to total their bills as they shop. The scanner, from Symbol Technologies, works with an ICL computer system: see report, page 9

The new customer-focussed world is thus one of data warehousing, shopping basket analysis and of seamless systems' integration so that store managers can access just about anything from anywhere. On the shop floor, this can mean electronic penpads to communicate with remote systems to solve *ad hoc* queries, while for merchandisers it can mean digital cameras and laptop computers. A typical user is the C&A subsidiary, Hamells, which has installed a fully-integrated Windows application from Business Developments which allows its buyers to use digital cameras to input images of their latest selections.

From overseas buying trips, these images can be transmitted to colleagues back home for comment. Alternatively, they can be stored in the system and then used to create merchandising ideas for display staff or provide new product training presentations for staff – all to be ultimately transmitted to the PC-based EPoS tills in branches.

"We see this as an important range development tool," says operations manager, Mike Randle, "as buyers will be able to develop merchandise moods more easily.

"If we can send pictures of new lines and display recommendations to the branch staff before the goods arrive in store, then it helps to create more interest about the products and will also encourage them to alert good customers about expected styles" – yet another way for IT innovation to add to that total "service offer".

■ Impact of data warehousing • By Penelope Ody

Number-crunching produces vital sales information

Retailers are at last starting to make full use of mountains of accumulated data – with highly profitable results

For a decade, many leading retailers have collected reams of item-level sales data, numerous lists of which products customers bought during a single shopping trip, information on hourly trading peaks and troughs, and enough numbers to allow comparisons by any product, any branch, or by any time of day.

Unfortunately, the number-crunching needed to pull the facts into a truly useful report generally meant that management information was limited to exceptions and trouble-shooting.

With modern client-servers and powerful data warehouses now replacing lumbering legacy systems, retailers are at last starting to make full use of all that accumulated data – with dramatic and highly profitable results.

In the UK, Woolworth installed a Tandem processor, SQL database and Microstrategy's DSS Agent management tools last year.

The system allows users to pull any data – gleaned from transactions, supplier or store records – from the central repository and assemble it into a multi-dimensional format for further analysis.

"It allows us to measure performance across any group of products and any combination of stores," says MIS director, Dan Bernard. "For example, it has made it very easy to establish performance in our 'price crash' promotions where we cut the price of kitchenware in those stores where we were competing head-on with a particular chain of hardware discounters."

Woolworth has also been able to monitor merchandising experiments more successfully: before Christmas, various Disney lines were brought together into a special section in some branches and spread through conventional departments in other stores.

Managers were able to monitor the success of the experiment on a daily basis, whereas previous trials demanding the analysis of a group of seemingly random product codes had tied up the IT department in a weekend of number-crunching.

Data warehousing is also helping chains to tailor their product assortment to local demand more precisely. In general, large retailers have found it almost impossible to fine-tune product allocation to meet local purchasing trends so that fluctuation in demand leaves over-stocks in some areas and a dearth of merchandise in others.

In the US, lingerie specialist Victoria's Secret – using a similar Tandem/Microstrategy solution to Woolworth – reckons to have improved sales of some lines by 40 per cent by changing its size distribution without increasing stock levels over-all.

"We've also identified a potential for $3m savings in mark-down expense by varying promotions on a particular class of merchandise," says vice-president for IS, Richard Amari.

UK retailer WH Smith, which has installed a massively parallel processor from NCR Teradata, began using its data warehouse to improve product assortments and marketing although use has now spread throughout logistics and finance areas as well.

Conventional local analysis becomes "a self-fulfilling prophecy," says Hugh Reader, IS director for WH Smith Retail. "The marketeers say that the main catchment area is 'type X' customers, you stock products to appeal to 'type X' and you attract those sorts of shoppers.

"We can now look at what actually sells in a particular store and rapidly pick up on product types that perform well from Epos data, but which don't necessarily conform to the original store model. Thus, product assortments and ranges can be revised to match real – rather than theoretical – local demands."

Data management: Safeway, the food retailer, uses IBM software for its data warehouse system, helping the company to increase profitability and market advantage

As experience grows, merchandisers are matching local consumer expectation and demand to product assortments, rather than simply pumping standard goods into each marketplace.

"It is transforming the way we do business, making us more dynamic and responsive," adds Mr Reader.

The system is also helping with advance trend-spotting and sales forecasting: in the fickle world of computer games, for example, WH Smith has been able to pinpoint which are emerging best-sellers and which fading from fashion and has been able to amend orders accordingly: in the old days it could take seven days to assess performance, but with the data warehouse the same analysis is achieved in a few hours.

"WH Smith has been undertaking some fairly radical restructuring and re-organisation in recent months," adds Hugh Reader. "If we hadn't adopted the data warehouse approach when we did, then those changes in the business would have been much more difficult to achieve."

The data warehouse could, theoretically, hold information about every aspect of the business from customers and product lines to staff records and financial information – and given the increasing integration of retail departments, this could eventually become an attractive option.

Retailers in the vanguard of data warehousing have preferred to start with simpler, more focused developments. In the US, for example, mail order specialists Land's End have used IBM solutions to develop a customer database which helps target promotional offers to those shoppers most likely to respond to them.

Petrol retailer, Fina has preferred to start with fuel sales and uses its IBM database application to monitor sales at 1,500 petrol stations on a daily basis, using modelling tools to simulate competitor activity and distribution problems in planning deliveries.

Also in the US, Food Lion, which has 1,074 supermarkets across 14 states, is using a Red Brick data warehouse for category management – an aspect of efficient consumer response (ECR) which generally involves close co-operation with suppliers who help co-ordinate product choice and space allocation with a specific merchandise category.

The system manages product categories by store level, creating a massive 100 gigabytes of raw data which is accessed by 65 merchandisers.

"We made a strategic decision to move to category management about 18 months ago," says Ames Flynn, director of systems services. "We needed to find a data warehouse that would give our users the flexibility to analyse data from several dimensions."

As users realise just what sort of queries they can solve, using the data warehouse resources, so the range of complex tools for data mining, linear programming or regression modelling grow.

Most are designed to run under Windows and appeal to the non-computer expert.

Equally, while many data warehouse solutions simply demand a common pot of information which managers can tap into at will, the data-mart concept, where this raw data is predigested and formatted, making it easier and faster for managers to access, is also gaining ground.

These systems generally use on-line analytical processing (Olap) servers which pre-compute all possible combinations of actual and derived data, so when the users asks for a report on products X, Y and Z in branches A, B and C, the information is quickly retrieved by accessing labelled data elements.

The UK shoe retailer, Clarks, is installing a system using Essbase from Arbor Software with an Arthur planning system from Comshare: "We have a database covering more than 600 shops," says project manager Richard Cronin. "Accessing the data directly proved too slow. So we're putting in the data mart level between database and users which is improving access times."

This type of approach could become even more common as the data level rises. In the US, American Stores has spent the past 18 months putting certain aspects of its food business into its data warehouse. The total so far is a third of a terabyte of storage (333 thousand million bytes), and once 'non-food' is added, that is set to rise to 2TB within another 18 months – and all that using what system designer, BACG, describes as "lightly aggregated data".

"In our system we don't currently capture every item in every basket and record it individually," explains Charles Cowan, product director, merchandise for BACG. "We combine it by day or week and by price, so a retailer knows he has sold, say, 10,000 wholemeal loaves at £1, and 2,000 at a mark-down price of 80p. There's a lot of interest in recording market basket data, but the storage needed is the biggest problem."

Mr Cowan believes that just as a few years ago gigabytes were associated with mainframes, but now are commonplace on PCs, "so with terabytes – by the end of the century 10TB is going to be normal for a data warehouse," he says. "We are already looking at developing tools and applications to support that sort of operation."

For those retailers determined to be first in the field, pioneering costs are likely to be high – typically, software to manager a data warehouse on the scale of American Stores' will be well into six figures – and the hardware will be multi-million – with the emphasis on "multi", he says.

■ The supply chain • By Tom Foremski

It pays to share data

Retailers can now plan promotions for best effect, rather than launch a blanket, scatter-shot approach, by using new IT sales data systems

It may sound like a meaningless marketing phrase, but Efficient Consumer Response (ECR) is becoming a key factor in helping retailers in the US to expand their sales and profits by sharing sales data between retailers and their suppliers.

However, this sharing of data involves a significant element of trust that must overcome a traditional tendency not to share customer data. Companies that are able to overcome their initial fears, are discovering that ECR can quickly pay for itself.

ECR was developed in the US in the early 1990s by the US consulting firm Kurt Salmon Associates (KSA), working with the US Food Marketing Institute. KSA proposed a series of "best practices" models to cover such areas as direct store delivery, category management, and computer-assisted ordering.

Although the various components of ECR are familiar to retailers the world over, ECR is promoted as a complete package of IT-related components that work to remove inefficiencies in a retailers' supply chain.

The basic concept of ECR is straightforward: retailers collect data on what their customers are buying, the amounts sold and which geographic markets favour certain products. The information is passed back to suppliers who tailor their production and delivery schedules to ensure that products reach the retailers customers.

With modern IT solutions, it is possible to capture and distribute such data in almost real time. Electronic point of sale (Epos) data can be sent straight back to a supplier's computer system which can then schedule new deliveries.

Other benefits of ECR allow retailers to identify slow-moving and unprofitable products and tailor the contents of a supermarket to its local customers. For example, one supermarket chain found that although a Greek-style yoghurt it carried in some of its outlets was not profitable, it drew in up-market customers who purchased large amounts of other more profitable products.

ECR can also provide retailers with better information on how to plan promotions for best effect instead of a 'blanket' approach – and it allows for more efficient product introduction, a key factor in the grocery market which sees thousands of new products competing for limited shelf space every year.

But sharing customer data is a sensitive issue. Collecting such data can be expensive and organising it into useful information is sometimes difficult. Sending this information to a supplier instead of just sending an order seems to run against the grain for many retailers. While ECR has taken off in the US, European retailers are traditionally more conservative and there are some concerns that ECR may be somewhat over promoted.

Although ECR is applicable to virtually any retailer, it is the grocery chains that have been at the forefront of implementing ECR methods.

"Margins are very low in grocery retailing. Sometimes the manufacturer makes more money than the retailer, so anything that

Continued on next page

■ Retail systems integration • By Geoffrey Nairn

How to gain a 'global' view of the business

Retailers have long used IT to boost efficiency and cut costs, but now they want to unlock the full potential of technology to create a more customer-focused retailing model

Systems integration seeks to break down information barriers, allowing retailers to pull data together to obtain a truly 'global' view of their business.

Acquisitions, multiple store formats and short-sighted investments in the past have left most retailers with a mish-mash of hardware and software 'whose whole is too often less than the sum of its parts'. The drawbacks of such systems become more apparent as retailers try to shift from an essentially paper-based culture to an integrated online environment better suited to today's fast-changing trading conditions.

"Systems integration is always an issue when you try to build a common platform," says Jonathan Eales, the IT services controller at Woolworths, the retail group in the UK.

"Not long ago we had just a mainframe – now we also have five IBM AS/400 computer systems, a Tandem data warehouse and a number of networks."

Integrating these different systems to work well together has proved a challenge – "it's no good having a super data warehouse if you don't have a good system to actually deliver the merchandise or stock-tracking systems in stores," he says. Many retailers want to move from mainframe-centred systems to distributed client-server environments that offer greater flexibility and allow powerful applications to run at both head office and store levels.

"The future is client-server with data available to all applications and a data warehouse at the heart," says Eales.

Systems integration plays a key role in enabling this transition and it has become an attractive market for IT vendors as margins are usually higher than those from selling hardware. Olivetti was one of the first to enter the market, helped by the fact that it never made mainframes and thus had to learn to integrate its store systems into mainframe systems of other vendors.

ICL Retail Systems also emphasises its experience in multivendor environments and has a dedicated Retail Integration Centre in the UK.

IBM starts with the advantage that most retailers have an IBM mainframe, though it now claims to have the systems integration skills to help retailers maximise their technology investments regardless of source.

In the past, retail systems were designed to automate a particular function with scant regard to their wider impact or future needs.

For example, supermarkets originally installed electronic point-of-sale (Epos) scanners to automate ordering. Now, many are discovering the hidden value of their Epos data – for detailed analysis of seasonal buying patterns, for example – but their current systems do not let them fully exploit this rich information source.

"At the moment, we can't analyse the Epos data," says Rolf Wild, an IT manager with Migros Genossenschaft, part of Swiss retail group Migros. It has invested heavily in front-of-store technology, installing ICL Epos scanners and ISS400 store management software. The terminals can handle foreign currency and electronic purses, while customers in rural areas, who cannot get to a bank, can withdraw cash without making a purchase.

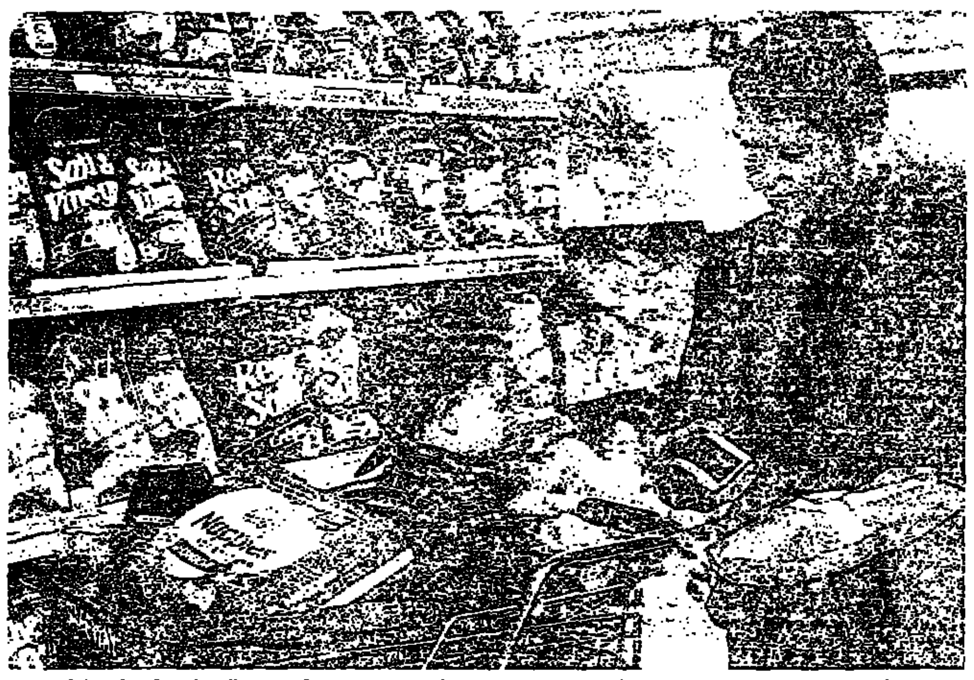
In contrast with the in-store innovation, the central IT functions have lagged behind. Migros is now trying to catch up by building an Oracle-based data warehouse to allow head office staff to analyse Epos data. The company wants its new system to integrate with existing and future applications.

"We built the application programming interfaces before we built the system.

> Systems integration is an attractive market for IT vendors

This means we can put in another system without having to start from scratch," says Rolf Wild. Several software houses have developed applications to integrate store-level functions previously handled separately.

CounterPoint, from the US firm Synchronics, is an example of this new breed of tightly integrated packages and it covers the full range of retail functions, from Epos handling and order processing to inventory management and credit card processing. It also has modules to handle electronic mail, labelling and the special needs of fashion retailers. The software runs under Dos or Unix.



Potential goldmine: leading retailers such as LL Bean, Autozone, Safeway, Bass, ShopKo and Lowes all use IBM software to overcome the information overload to sift through raw nuggets of sales data

Nevada Bob's, a worldwide chain of golf shops, is installing CounterPoint on IBM's SureOne PC-based Epos terminals in all its US stores. The aim is to centralise Epos operations and automate stock replenishment by linking Nevada Bob's suppliers to the Epos terminals.

Another example of tightly integrated software comes from Schedule Works, a UK firm. Its Integrated Service Management System optimises staff scheduling in stores, so improving customer service and reducing staff costs. ISMS can cope with the complex shift patterns typical in retailing and integrate with a central payroll system, so reducing the need for head-office staff to manually process time sheets.

Store managers can forecast customer traffic and schedule staff to match the varying traffic during the day. The latest module in ISMS uses video cameras to count customers in the store and compare them with predicted traffic, so giving early warning when checkout queues are likely to form, for example. The video-based system was recently installed in a branch of Savacentre hypermarket, part of the Sainsbury group.

"The technology has not been available to measure store performance, so for years nobody knew anything about what customers were doing in stores," says Michael Buckley, marketing manager at Schedule Works.

A central aim of ISMS is to give managers real-time snapshots of how the store is performing throughout the trading day.

"Key performance indicators", such as sales per hour worked, are displayed graphically on a PC. Warning messages flash when service levels drop or costs rise. Managers can be kept informed on the store floor using one of the new generation of multifunctional mobile computers for retailers, such as IBM's SurePoint.

The SurePoint is pen-based handheld device that allows managers to obtain information about the store's operations via a wireless network.

Alternatively, sales staff can use the terminal to make order enquiries for customers and process complete orders, thanks to the SurePoint's Epos functions, while an integrated scanner allows inventory management.

The ultimate in integrated software comes from the UK software house, Business Development. Fashion Yield is a suite of programs that aims to cover all the needs of a fashion store, from buying and design to merchandising and property management.

The modular software runs under Windows and can integrate with a retailer's existing accounting, Epos, stock control and executive information systems.

One module optimises merchandise management using Epos sales data, while another improves project planning and budget tracking for store refurbishments and other projects.

Fashion Yield also has two applications designed specifically for fashion retailers. The first, Yield Collage, allows buyers to view and organise garment designs and fabric swatches captured using digital cameras or scanned images.

Images can be captured on foreign buying trips using a notebook computer and transmitted back to head office via the Internet. This speeds decisions and shortens time to market – particularly important for fashion retailers. The second module, Yield Display, is aimed at visual merchandisers and allows non-artists to produce images of proposed store layouts using virtual reality techniques.

Merchandise images can be dragged and dropped on to display units and the visual impact judged from different angles by "walking through" the virtual store.

■ Improving the supply chain

US suppliers set the pace

Continued from facing page:

helps to improve margins generates a lot of interest. ECR has shown that it can quickly pay for itself in a matter of months," says Richard Fiddis, managing director of UK based Marcam EMEA, which provides ECR software systems.

Fiddis adds that a key feature of ECR is that it can calculate the profits generated by each batch of product, not just the average profit or average cost of manufacture, but a more specific measure that takes into account all the costs involved in bring a product to the consumer in a specific location.

As more and more retailers adopt the various components of ECR, it is creating a situation where suppliers that are not willing to work with a retailer with its ECR system can find themselves without a customer.

"One of the retailers we work with, for example, found that the forecasting data it received from a supplier was so out-of-date and useless that it was unprofitable to continue doing business with that supplier," says Fiddis.

Supermarkets

But ECR is not a final destination since it encompasses so many facets of the supply and retailing business. Some large European supermarket chains, for example, have had many of the best practices methods outlined by ECR in use for many years.

Grocery chains such as the UK-based Sainsbury's, Tesco and Netherlands-based Albert Heijn have been using electronic ordering, and sales-based ordering for many years, although smaller retailers are only just beginning to adopt more of the ECR philosophy.

In the US, the giant retailer Walmart represents – in many ways – an ideal that other retailers are studying as a case study in the use of ECR. Walmart has been a leading exponent of what is called Vendor Managed Inventory (VMI) in which the supplier is responsible for forecasting demand, and stocking the shelves, and getting paid only when there is a recorded sale.

US manufacturers, such as Tambrands US, have reported big increases in sales due to VMI. And Welch's, a supplier of grape juice, reports that VMI has helped it boost its sales through Walmart by 25 per cent.

But in Europe, there is still scepticism towards VMI. Sainsbury's for example, sees VMI as turning over a key asset to their suppliers and it believes it better understands its customers than its suppliers. This is certainly true if the retailer decides not to share customer data but if it can supply the right kind of data, and the right quality of data to suppliers, such concerns can be eliminated, say ECR supporters.

ECR is also emerging as a key method in bringing new products to market. Bass Brewers, for example, said it managed to introduce its Hooper's Hooch Alcoholic Lemonade in just six weeks from product idea to delivery on store shelves.

But for many retailers and suppliers, the holy grail of ECR and all its benefits is a distant promise if they have not yet developed basic IT systems that can give them an accurate picture of their inventory levels and customer-buying habits.

Eventually, ECR will lead to an electronic link direct to the customer. Andersen Consulting predicts that by the year 2005, as much as 20 per cent of commodity groceries will be bought without going to a traditional grocery outlet. Retailers and suppliers, thus need to be more focused on the consumer – or risk getting left behind by more adept competitors.

Logistics and the supply chain: see report, pages 10

■ **On-line retailing** • By Christopher Brown-Humes

Views clash over electronic home shopping prospects

A revolution is retailing – or just an over-hyped concept? On-line shopping comes in many forms and the experts remain divided

Few things excite retailers – or divide them – like the outlook for electronic home shopping.

According to one view, shopping over the Internet and other new media is over-hyped and floundering.

"Electronic shopping will have no impact in the next five years and minimal impact in the next ten years," says Mr Richard Perks, Verdict's senior retail consultant.

But other experts predict on-line shopping could account for as much as 30 per cent of retail sales by 2005, suggesting a big revolution in shopping habits within ten years. In the US that would make it worth up to $150bn and in the UK up to £21bn, according to the consultants Cap Gemini.

Verdict's argument is that the technology is not yet adequate and consumers are not ready for electronic home shopping – "the fundamental problem is that the majority of people *like* shopping. They prefer to see, touch, try out and try on goods they are thinking of buying," it says.

The alternative view is that technology is improving rapidly, that Internet use is rising quickly, and that on-line shopping will be natural to a generation brought up on computers and Nintendo games.

Increased pressures on time plus rising traffic congestion also favour on-line buying. Electronic home shopping comes in many forms, but the main ones are the Internet, TV cable and satellite, and multimedia kiosks.

The phenomenon is furthest advanced in the US, which has deeper personal computer penetration rates than other countries and a long tradition of home shopping by catalogue. It is estimated that 2m online purchases were made in the US last year – but that only equates to a single purchase by less than 1 per cent of the population.

One of the biggest US successes has been Amazon Books, which – with an offering of a million books – claims to be the biggest bookstore in the world. Significantly, it has no shops, just a giant warehouse outside Seattle. This means it has much lower overheads and a broader range than its competitors – core attractions of on-line retailing. The frightening aspect for established book retailers is that it has risen from nowhere in little over a year.

Most experts believe there is a future for on-line retailing for commodity items, such as wine, chocolates, CDs and videos, flowers and standard groceries. Indeed, many projects have already been launched in these areas. But observers are more divided about the potential for items such as clothes and fresh fruit where where "feel and look" are more important.

One sector that could be revolutionised by technology is catalogue shopping, involving a switch from printed material and post to screen and on-line buying. Indeed, Jeremy White, chairman of Nettec, a specialist in corporate clients and the Internet, predicts that as much as 50 per cent of catalogue buying will be done electronically in the US by the year 2000.

In the UK, home shopping groups are starting to take these possibilities seriously. The most ambitious move so far into on-line retailing has been made by Great Universal Stores, the UK's largest mail order group, with the launch of ShoppersUniverse.

In general, UK retailers have been slow to embrace the electronic shopping revolution. Although many are putting up web-sites, they are advertising their wares rather than selling them. Those who are offering Internet sales are doing very little business. This is mainly blamed on low levels of personal computer penetration and difficult internet access. But that is changing rapidly, with some experts predicting that 5m people in the UK could be linked to the Internet by the year 2000.

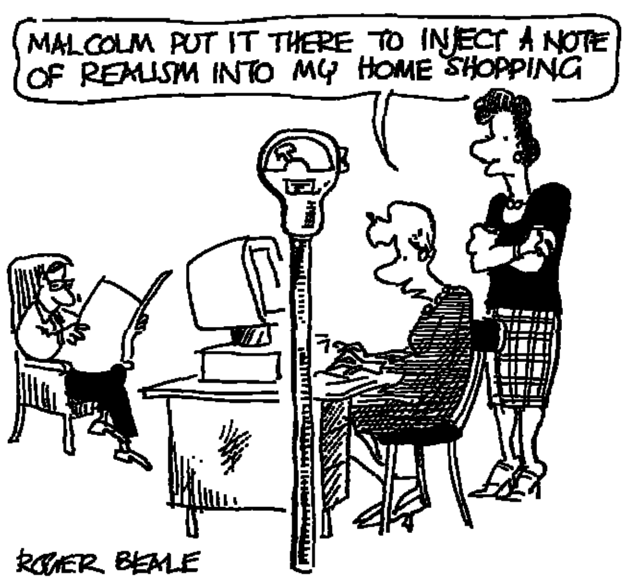
Retailers have plenty of reasons to sit on their hands and do nothing, not least because they do not want their stores to turn into ghost-towns. But, equally, they do not want to be bypassed by manufacturers, foreign retailers and start-up operations.

Apart from the over-riding question of personal computer penetration rates, a number of issues have still to be resolved before the credibility of electronic home shopping is enhanced. They include cost, distribution (people physically being at home to take delivery of goods so they are not stolen and frozen goods do not melt), and the speed of log-on times and graphics quality on the Internet.

There have also been widespread fears about fraud on the Internet and credit card numbers getting into the wrong hands. But the concern is acknowledged, and encryption techniques and other secure trading mechanisms are being developed. Some say you are more likely to suffer credit card fraud when paying for a restaurant meal.

Electronic shopping is clearly going to expand, but at *what pace* is hard to say. The expansion will take many forms. Mr Rick Peel, of the COBA consultancy group, says: "People are going to use different media at different stages of the shopping experience. They may browse on the Internet, for example, but still purchase in a shop."

He adds: "We believe the impact of multimedia on shopping will be as much in the street, on the move and within traditional retail outlets as it will be in the *home*."



CASE STUDY ■ Home shopping in the US • By Tom Foremski

Peapod service saves time and adds value

US-based Peapod is one of the premier home shopping services using electronic links from the customer to a local supermarket to deliver groceries to a home or business.

The service is currently available only in four US metropolitan areas which include Chicago, the San Francisco Bay area, Columbus and the Boston area.

The service costs $6.95 per month and customers pay a $6.95 delivery fee and five per cent of the total grocery bill. Orders are made via computer and computer modem using Peapod's proprietary software which is available for IBM PC and compatible personal computers and Macintosh computers.

Users can download the software from the company's Internet web site and make their grocery choices from the list of products offered by a local supermarket. They can use discount coupons in the same way that they would if they actually visited the store, and Peapod will offer comparable substitute items automatically if the specific product is unavailable.

The grocery selection is made either through the creation of a personal list of regular grocery items or by roaming the virtual supermarket by individual aisle. Shoppers can also choose items by category and by name.

Peapod customers report that they can save three to four hours each week by using the on-line service. Peapod adds further value with its software by offering nutritional information on the grocery products and also recipes.

Although Peapod targets home-based users, it also promotes its service to businesses, since often a company will buy groceries for staff snacks and special events. It also hopes that companies will offer Peapod as a staff benefit, allowing employees who do not have a computer at home to use the office computers to order their groceries during their lunch hour or after work.

Families

About 80 per cent of Peapod customers are women, reflecting the gender mix of shoppers that usually shop for groceries. Almost 90 per cent are college-educated, and about 60 per cent of users have children, indicating the high time-demands of grocery shopping on people with children.

Peapod says that most of its customers shop between 8pm to 1am, usually slow times at US supermarkets. The average time shopping is 37 minutes with an average order of $100, made about twice per month.

Peapod's main focus since its founding in 1989 has been on the shopper, but it also realises that the data it collects on customers' buying habits can be useful to research companies. Peapod customers in the future may be offered new products as a marketing test before the products are available elsewhere.

In a way, Peapod is an extension of the supermarket into the home and thus could be an important component of a retailer's efficient consumer response strategy.

The main drawbacks are that even in the few US metropolitan areas that the service is available, it is limited to just one leading supermarket. Offering a home grocery shopping network that gives users a selection of supermarkets would give users a chance to take advantage of different promotions and patronise their favourite supermarkets.

Peapod is promising more retailers in the future as it expands its service further.

US retailers lead the way with ECR applications: here a service terminal from ICL is used to help design a dream kitchen for a potential customer at a branch of Courtesy Stores

■ European viewpoint on ECR • By Geoffrey Nairn

Potential for big savings in the food industry

Up to $33bn a year could be saved by applying 'efficient consumer response' (ECR) principles across Europe's grocery industry

While 'efficient consumer response' is a hot topic with US retailers – *see reports on pages 4 and 5* – their European counterparts did not share the same early enthusiasm, claiming that an idea born in the US would not adapt to Europe's different retailing environment. New research suggests this is not so and Europe's grocery industry could, in fact, cut its prices by $33bn, or 5.7 per cent, by fully applying ECR principles.

Europe is now a promising market for ECR: its consumers have become more demanding, distribution costs have risen, while saturated markets have clipped food retailers' expansion plans and forced them to seek new growth from their existing stores.

Retailers thus need to know their customers better and respond faster to their changing demands. ECR aims to do this by breaking down the barriers between manufacturer and retailer that have traditionally slowed distribution and increased costs.

"ECR has two major benefits: on the supply side, it dramatically lowers costs and reduces inventory levels, while on the demand side, retailers get new growth," says Michel Tatibouët, ECR co-ordinator at Coopers & Lybrand's Paris office. The management consultancy advises the European ECR Board, set up in 1994 by a group of 20 leading consumer good manufacturers and retailers.

Coopers & Lybrand conducted pilot ECR projects with 15 member-companies in seven countries and calculated that savings of $33bn could be achieved by applying ECR across Europe's grocery industry.

The comparable figure for the US is $24bn, equivalent to a cut of 8 to 10 per cent. Of the potential European price cut of 5.7 per cent, the lion's share – 4.9 per cent – comes from lower operating costs, while a smaller saving, 0.9 per cent, is achieved by manufacturer and retailer reducing their stock levels by an average of 42 per cent.

Synchronised production is the most significant factor in cutting stock levels, while the most effective method to reduce operating costs is supplier integration.

France is a particularly promising market for ECR. Two of the largest retailers, Auchan and Promodès, owner of Continent hypermarket chain, are members of the European ECR Board, as is Danone, the French food manufacturer.

Growth in the French grocery market is slow because of legal restrictions on new sites and price controls to protect smaller shops, while the hypermarket and supermarket sectors are intensely competitive.

"The advantage of ECR is becoming much more obvious to French retailers who have to increase the efficiency of their existing square metres," says Tatibouët. Many of the ideas ECR incorporates have already been adopted by Europe's leading food retailers and manufacturers, though they do not necessarily 'buy' the whole ECR philosophy.

Using EDI and Epos terminals, automatic store ordering and synchronised production can be put in place, so cutting stock levels and distribution costs and allowing retailers to respond quicker to new customer demands.

In the Netherlands, retailer Albert Heijn has set the pace with sales-based ordering, automatic replenishment and technologies such as EDI.

"In two years, all our suppliers will be using EDI," says Gert-Jan Von Loo, manager for store systems at Albert Heijn.

"The first priority is to reduce paperwork between suppliers and our warehouses. The second is to shorten lead times."

Albert Heijn is a member of European ECR Board and claims to be the largest Dutch food retailer with 640 outlets. It started to streamline its logistics in 1994 when it introduced its "Today for Tomorrow" concept: goods ordered today arrive at the supermarket tomorrow.

Before, Albert Heijn had a patchwork of warehouses with different ordering cycles and delivery frequencies for different product groups. Today, there are just four regional distribution centres that handle all types of product and only two goods flows – refrigerated and non-refrigerated.

Deliveries to the stores are made daily in smaller, more manageable quantities and the orders for the following day are obtained from the Epos sales data of each store. These are sent overnight from the stores' Unix systems to a central IBM mainframe.

Albert Heijn wants to go further and reduce lead times from 18 to less than 10 hours. It is also working with its main suppliers, such as Dutch brewer Heineken, on a concept called "total supply chain management".

Orders from stores are passed directly to the supplier so that within six hours of an order being received, it will deliver the goods to one of Albert Heijn's distribution centres.

The idea benefits both parties: the retailer eliminates the large stocks previously carried in its stores and distribution centres, while Heineken gets round-the-clock information about what its consumers are drinking.

This, according to Coopers & Lybrand is typical of how ECR will be applied in the future. Once distribution has been streamlined and costs cut, future retail battles will be fought over "category management" – meaning product launches, promotions and optimising the mix of products on shelves.

Here, sophisticated database systems, fed by Epos data, will play an essential role in helping retailers better understand customers' spending habits and stock their shelves accordingly.

Retailers jump on the loyalty bandwagon

With the increase in loyalty cards, retailers are using IT to keep track of their customers

Not so long ago, the plastic in your wallet was usually associated with getting money in and out of your bank. Today, it is more likely to be labelled "Reward", "Spend & Save" or "ClubCard", as retailers jump on the loyalty bandwagon and rush to issue yet more cards.

In theory, these are designed to help retailers get closer to their customers and produce a shopper database for direct marketing – matching the offer to the individual. But database maintenance is expensive and, in practice, most retailers avoid making mailshots too personal. The fear of committing some highly publicised blunder by misinterpreting an individual's history of purchases or using out-of-date information is a potent deterrent. As a result, all card-carrying customers tend to be given the same rewards and promotional mailshots.

With schemes often offering an effective 1 per cent discount to all, those rewards soon mount up. Tesco has issued nearly 10m cards of which around 80 per cent are deemed "active". Database management is outsourced and there has been little attempt, so far, to limit the benefits to "non-active" shoppers or even to contact them and discover why they so rarely visit the store.

Sainsbury and Safeway both have around 4.5m card holders. Safeway is addressing the marketing issue with a multimillion-pound investment in IBM's System 390 platform with DB/2 database tools and parallel query capability to manage this expanding customer database.

"We want to understand the needs of different customers," says Mr Steven Taylor, Safeway's controller of relationship marketing, "and do finely targeted, specific promotions that will be more relevant to shoppers. Equally, we must not abuse the information we can obtain from basket analysis and jump to conclusions about lifestyles and purchases – it is going to need sensitive handling."

The new database is initially under IT control with a database manager and a team of specialists who will analyse and format the information for various departments. But eventually line managers may have more direct access to the raw data as application tools improve.

"As well as using the database for communications with customers we want to use it to improve space allocation and product placement to better understand what gets bought and in what combinations," says Mr Taylor.

Use of loyalty cards is more widespread in the US than in Europe. US retailers have realised that shoppers need to be rewarded differentiywith the high spenders encouraged to buy even more. US experience suggests that the top-spending 30 per cent can contribute 75 per cent to sales volumes while the bottom 20 per cent will account for less than 15 per cent of the profits as they cherry-pick the product assortment for special cut-price offers.

"You need to have a different price and benefits package for different customers," says Mr Brian Woolf, president of Retail Strategy Inc, "and this should be based on an estimate of their economic worth to the organisation. 'Loyalty' is a misnomer – it is really about economics and there is a real need to de-average customers and to focus on economic value."

For Mr Woolf, "customer specific marketing" is the key, with technology seen as an enabler to identify the most profitable customers and calculate the "direct customer profitability". Systems can be used to identify how frequently customers shop in the store and monitor how recently they have made purchases to focus attention on the regulars.

He believes that within eight years, 80 per cent of retailers will have de-averaged their customers and will have tiered loyalty programmes in place. Some personalisation of offers is already starting: one Milwaukee supermarket has a VIP scheme where shoppers swipe their loyalty cards through 'readers' as they enter the shop and a printed list of money-off vouchers, based on their previous spending patterns, is produced.

Others, such as Foodtown and Morgans in the US, have formed "special shopper" clubs and display split-price merchandise with a "shelf price" for casual shoppers and a "member's price" for high-spending members.

Differential rewards can be triggered by coding on the customer's loyalty card or simply as part of the point-of-sale processing software. US supermarket chain, Food Lion, for example, prices all promotional items in a three-tiered system with one level of discount if customers spend less than $20 on the shopping trip, a higher rate for those spending $20 to $50 and the maximum 20 per cent for those spending $50 or more. The calculations are made at the check-out and discounts deducted from the final bill.

Although most loyalty schemes use magnetic stripe cards, a few are moving to smart cards as the need to identify and differentiate customers grows. One of the UK's most imaginative schemes has been developed by Chelmsford Star Co-operative Society.

In just over a year, the society has signed up 15,000 card-carrying members from its catchment population of 150,000. As well as being rewarded for purchases with a sliding scale of discounts based on the amount spent, customers can have loose change transferred to the card as "savings". These can then be spent electronically in the store. An agreement with the Co-operative Bank allows these Starcards to be used as standard debit cards. Full discount details are printed on receipts at the point-of-sale along with "if you'd been a member, you would have saved £x" messages for non-card holders.

The latest development is a "500 Club" where card members deposit up to £500, interest-free, with the society for a minimum of three years. This entitles them to further discounts, such as 15 per cent on holiday bookings. Customers agreeing to keep £500 on the card "for life" are rewarded in the end with a £500 reduction on their funeral bills from the co-op's undertakers department.

Within three months of its launch, 750 customers had joined the 500 Club, netting the society a useful £375,000 in capital investment. The Co-op is also starting to build a customer database of transaction records and known family history for these particularly loyal shoppers which will eventually be used to target this core group.

On this scale, it is a simple matter to keep the database up-to-date and to make promotions 'personal'.

Managing the millions of records that a scheme such as Clubcard generates is a different matter and – as Safeway appreciates – demands significant IT investment. For retail IT suppliers, it is seen as a huge growth area and numerous applications are now appearing. As well as IBM's Electronic Relationship Marketing application selected by Safeway, there is Precision Retailing from ICL and Amdahl. Most of these developments start by analysing a shopper's purchases or "market basket", giving retailers insights into the customer's preferences and lifestyle.

In the US, however, Wal-Mart has developed detailed associations based on 'market basket' analysis which has influenced product placement. It found, for example, that a significant number of shoppers buying cold cures also bought fresh orange juice, so it moved a juice display to the pharmacy section with a resulting increase in sales.

Critics of "points-for-prizes" loyalty projects suggest that tools like these can make generic customer targeting just as effective at increasing sales as the current spate of card schemes. Those who urge identification of the most profitable shoppers believe it is just a beginning.

■ Retail kiosks • By Michael Dempsey

Car buyers' screen test

Multimedia sites allow customers to stay out of the showroom and in control

In spite of its global scale and vast resources, the motor industry still finds it less than easy to capture the public's attention. A prime time TV advert for a new saloon car costs around $4m to produce and broadcast, but achieves no more than getting potential customers into the showroom.

The traditional barometer of showroom success is the ratio of test drives to sales, so anyone agreeing to a test drive is heading towards a purchase. In the UK, the normal ratio of test runs to sales is three to two, meaning that 66 per cent of people who agree to take a car for a drive go on to sign up for a new vehicle.

In 1991, UK car dealer Camden Motors took part in an experiment aimed at testing new approaches to selling cars. Under the auspices of Esprit, the European Union's high technology initiative, Camden Motors tried to address potential customers through the medium of video kiosks, set up at administrative sites of Camden's parent company, Barclays Bank.

According to John Bacon, development director at CarShop, the company that emerged from the experiment, the setting was crucial. Because the customer had to feel in control and that the procedure was convenient, it was necessary to allow access to information from outside the showroom.

At the kiosk, the customer sees a 17in touch screen connected to an Olivetti PC. The screen displays a steering wheel and dashboard that, when pressed, unveil a video clip using a well-known British actor. He provides a familiar figure who explains the purpose of CarShop. Information about the range of cars available can then be accessed and a simulated test drive is offered.

Data which changes infrequently is on CD-Rom, allowing CarShop to replace them when big product items are changed. The more volatile information, such as car prices lists that may change frequently, is held on hard disk. At first sight, it would seem sensible to reverse this order, with the easily replaceable CD-Rom holding information which changes. But with each terminal linked to CarShop via an ISDN phone line suitable for data transmission, those volatile facts can be altered remotely rather than delivering quotations on the value of the customer's existing car.

The car retail sector was already familiar with a computer system called Motor Trader that contains this data and Bacon believes the familiarity created by Motor Trader prepared the ground for CarShop – "what we did was to put a window on this that customers could use".

The transaction is two-way. The Unix processor polls the local terminals overnight and interrogates the kiosk activity through a specialised database. Of the programme – an off-the-shelf purchase from software house Standard IQ – Bacon says: "This allows us to measure when a customer goes into various sections of the application and how long he stays there. We can then separate the functions, finding how long people spend looking at finance packages as opposed to used-car values, for example."

CarShop says that serious potential purchasers are marked by certain characteristics – "if you're looking at a valuation on your existing car, you're certainly thinking about buying a new one". For access to that kind of information, kiosk browsers must leave their name and address.

John Bacon: 'I'm a retailer, not a technologist'

CarShop, acknowledging that most customers will not have touch-typing skills and will be using one finger, cut out another barrier to user acceptance by developing an onscreen keyboard with an alphabetic order of letters instead of the traditional "qwerty" arrangement.

A postcode with a name and house number are all a user needs to leave, allowing the Post Office address file to determine the remainder of a domestic address. "I'm a retailer not a technologist," Bacon, citing the provision of a live, online link for kiosk users, says. "All of these technical decisions were driven by retail arguments. My view was that it was not a commercial proposition because the purchase of a car takes six to 12 weeks. Whether you get hold of a quote in one day or two days is immaterial."

Each kiosk costs £6,000-£8,000, and CarShop, which had to match the grant pound for pound, received £330,000 of EU funding for what appears to be a very successful project. Bacon claims the kiosk trials boosted the test drive-to-sale ratio from 66 per cent to between 83 per cent and 94 per cent and, in its final review of CarShop, the Esprit directorate rated it a world-class solution.

More kiosks are being installed as CarShop moves into an independent existence with a staff of 55. Since its commercial launch in March, CarShop says 65,000 people have used the system.

Camden Motors is not the only UK car retailer to take a critical look at the traditional salesroom. Korean carmaker Daewoo made a dramatic entrance into the UK market in April 1995, dispensing with commissions for sales staff and offering the customer a sales environment free from the perceived annoyance of eager salesmen.

Multimedia touchscreen kiosks were installed in every outlet, with Daewoo's advertising leaning heavily

Continued on page 9

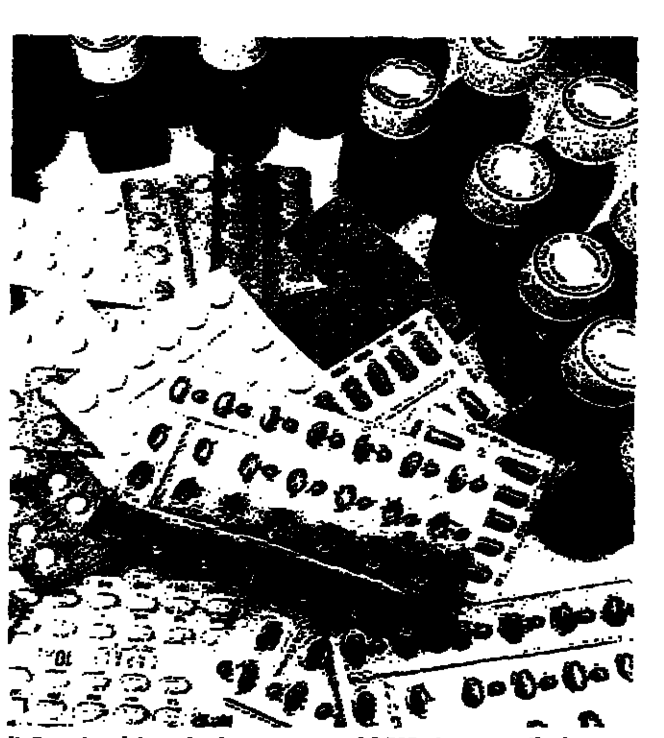
■ European case study: electronic data interchange • By Geoffrey Nairn

Cure for logistics headache

A consortium of Italian companies finds new ways to cut through mountains of paperwork

Antiquated laws and fragmented industries have stifled the development of electronic data interchange in many European countries, but the success of an EDI project involving Italy's pharmaceutical industry shows the difficulties can be overcome.

Italy's pharmaceutical sector is a model of inefficiency, say observers. Italian chemists choose from more than 9,000 products supplied by dozens of pharmaceutical companies through 250 wholesalers – in contrast, the UK market, of similar size, is served by less than 40 wholesalers.



Italian chemists order from a range of 9,000 pharmaceutical products via 250 wholesalers, generating mountains of paperwork

An Italian fondness for paperwork compounds the logistics headache, and replenishing the wholesalers' shelves each year generates more than 5m pieces of paper, including invoices, delivery notes and other documents required by Italian bureaucracy.

Rationalisation of the sector has been talked about for years but six of Italy's largest pharmaceutical companies grew tired of waiting and in 1991 turned to EDI to provide a solution to their distribution problems. They sought to break one link in the paper-chain by replacing traditional paper orders with online ordering.

The Dafne network uses the Edifact standard for exchanging documents and was set up by the Italian subsidiary of General Electric Information Services, a division of US company General Electric, and is run on its national value-added data network.

Each wholesaler pays L10m to L30m for the software to translate orders into the Edifact standard. These are then transmitted over the GEIS network to the supplier, which is equipped with software to translate the electronic order into a format compatible with its internal order system.

The Dafne consortium now includes 20 pharmaceutical companies and, by the end of 1996, Carmine Barone, Dafne co-ordinator, predicts more than 90 wholesalers, representing half the wholesale market, will be hooked up. The consortium is now looking to use EDI to replace other documents in the supply chain and is talking to the four largest Italian banks about extending EDI to the payment cycle.

Dafne was initially slow to build up momentum because of the unusual characteristics of Italy's pharmaceutical industry. In the car industry, for example, EDI has developed more rapidly, because a single powerful customer, Fiat in Italy, simply forced EDI upon its suppliers. This is called the "hub-and-spoke" model and is designed primarily to benefit the company at the "hub".

Most EDI projects use this model. In the case of Dafne, the fragmented nature of the pharmaceutical industry required a more complex "many-to-many" architecture that allows each wholesaler to communicate with many suppliers and vice versa. Also, the largest pharmaceutical company has just 5 per cent market share, so no single supplier could unilaterally adopt EDI and expect the others to follow.

To achieve critical mass, the six founder companies had to convince wholesalers and other drug companies of the mutual benefits of joining. Carlo Ciuccullo, head of marketing at GEIS, says: "Dafne has very different characteristics because it was set up by a consortium and designed with two objectives in mind: eliminating paper and improving the drug companies' relationships with their clients."

Using the traditional paper system, a wholesaler typically has to generate 400 to 500 orders each week. Each pharmaceutical company has two or three people whose job is to take traditional orders received by phone, fax or mail and then enter them into the company's order-processing system.

By reducing and ultimately abandoning paper orders, Dafne allows the pharmaceutical companies to get their orders a lot faster and eliminates the need for order entry staff – though Italy's stiff labour laws mean that surplus staff are usually redeployed.

One of the companies, Ciba-Geigy, estimates the move to EDI ordering has saved 30 per cent on its paperwork costs. The wholesaler spends less time filling in order forms while another important benefit is the electronic delivery note. This is sent by the pharmaceutical company and shows which of the goods ordered will actually be delivered.

Before, a paper delivery note travelled with the goods and the wholesaler had to wait until the consignment arrived to know which goods needed re-ordering.

"The electronic delivery note is a great advance for the wholesaler as he knows in real-time when he places the order which goods will not be delivered," says Carmine Barone. The consortium now wants to complete the ordering cycle and – by the end of this year – it hopes to use the network to send electronic invoices. This has been a big stumbling block to EDI's development in many European countries, where the tax authorities have traditionally resisted moves to transmit bills electronically and insisted that original paper invoices be sent.

Carmine Barone hopes the Italian finance ministry will soon allow invoices to be stored on optical disks, so banishing paper completely. But the ministry worries about the reliability and security of data stored this way.

In addition, the Italian legal system has been particularly slow to adapt to the information age and the legal validity of an electronic invoice is still unclear. Next year, the Dafne consortium hopes to use the network to gather real-time sales data from the wholesalers, thus allowing the drug companies to know – for example – how fast a newly-launched drug is selling.

CASE STUDY Parmalat in Italy • By Geoffrey Nairn

Machines now 'read' a million forms a year

An advanced handwriting recognition system can process up to 20,000 competition entries a day

In the fight to build customer-loyalty, retailers and food manufacturers use a colourful variety of voucher schemes and coupons. But such schemes can backfire if the redemption systems cannot efficiently handle the resulting avalanche of coupons – so IT now plays an important role in automating what were once heavily labour-intensive tasks.

Parmalat, a Italian leading food and dairy products company, has traditionally made heavy use of promotions that require consumers to collect points from product cartons and stick them to "bingo cards". Once completed, customers write their personal details and choice of prize on the cards and mail them to a handling centre.

Armies of temporary workers have traditionally been employed by the centres to process these cards, checking that the correct number of points are attached and then entering the customer details on terminals connected to a customer database running on a host system.

A million forms have to be handled in a typical year and the problems of managing the peaks and troughs in workload, and the consequent delays in delivering prizes, caused Parmalat to seek a less labour-intensive solution for its 1995 promotional campaign.

The company turned to Elsag Bailey, an Italian company specialised in document processing technology, to develop a high-performance optical scanning and filing system for the bingo cards. In full swing, at least 15,000 cards are processed each day, so Elsag Bailey had to design a system that had could handle the throughput and still read the handwritten characters on the cards with a high degree of accuracy.

Handwriting recognition is a difficult task for a computer, as makers of personal digital assistants know only too well. Elsag Bailey designed a client/server system based on a high-speed scanner and an IBM RS/6000 Risc-based server running Elsag Bailey's own handwriting recognition program, called SlamNet.

Once the images of the cards have been processed by the software they are stored on an optical disk. The cards themselves are then destroyed, but Italian law requires that the optical images be permanently archived in case of any dispute.

The bingo cards were designed to maximise the readability of the 100 or so alphanumeric characters that each customer writes, and the software uses the processing power of the server and some sophisticated algorithms to rapidly identify handwritten characters with an accuracy of 93 per cent.

"With numeric data, such as Italian postcodes, accuracy of 96 per cent has been achieved," says Dominico Mazzarella, a marketing manager at Elsag Bailey.

"The main problem is caused by people writing outside the boxes designed to hold each character."

> New techology has replaced armies of temporary workers

The software attempts to guess any poorly written characters and the image of the misread card is sent to one of the PC workstations connected to the server via an Ethernet network. Human operators then decide whether to accept the computer's guess or correct it.

The number of cards that need this intervention is greatly reduced and Parmalat found the new system allowed it to use just a third of the workers previously employed to manually read and enter the same number of cards.

To further improve the accuracy of the system, the raw data obtained from each card are sent to an AS/400 host system running a program that checks that the sequence of characters read off the cards correspond to valid names, addresses and postcodes. Any dubious data is then checked manually.

The system Elsag Bailey supplied to Parmalat can cope with 20,000 documents a day and the Italian company can build systems with greater or lesser performance by using a different scanner and server.

Other customers include food producers and mail order companies in Italy, France and Germany. The systems cost from L200m to L700m depending on size, and Elsag Bailey emphasises their efficiency and accuracy over temporary staff, whose commitment and performance may vary.

"Using students for data-entry may often work out cheaper, but if you want quality you need an automated system," says Dominico Mazzarella.

The US is the original 'home' of the shopping coupon and its customers love them because they win an instant discount at the supermarket checkout. Retailers, however, are less keen as they may wait two months to get reimbursed by product manufacturers.

IBM is working with two coupon redemption companies in the US to build an electronic redemption system that reduces the payment delays and gives manufacturers and retailers more timely access to coupon reporting information, so improving the effectiveness of their promotions. From January next year, coupons in the US will carry barcodes, allowing them to be scanned at the checkout as easily as grocery items. IBM has developed new software for its IBM 4690 point-of-sale terminals that takes the scanned coupon data and creates an electronic file. This is sent to head office, consolidated with other coupon data and then transmitted to one of the coupon redemption companies.

These act as clearing houses, requesting funds from the manufacturers and sending payments to the retailers. By comparing scanned product and coupon codes, the electronic system ensures coupons are only accepted for valid products – with the manual system, there is no easy way to check that the customer has bought the product listed on the coupon.

For retailers, electronic redemption means they no longer need to collect paper coupons and payment can arrive in just seven days.

The system should be running before the end of 1996, and the three partners want to extend the scheme to include other clearing houses and retailers using POS terminals from other vendors.

■ The wireless store • By George Black

Taking to the airwaves

The majority of leading US retailers are installing in-store radio networks

Retailers have long dreamed of portable checkouts and flexible IT systems that would end the nightmare of store cabling. New agreements on standards now look set to turn the dream into reality.

When Marks & Spencer installed its first electronic point-of-sale system back in 1988, its proud boast was of wireless connectivity. Batteries and back-up tape cassettes were all the technology of the day could provide and the portable experiment proved short-lived.

Today, the wireless store is almost a reality with radio (RF) links used to connect a growing assortment of portable peripherals which can allow store staff to check on stock levels, record sales, or place customer orders without the need to disappear into back offices and store rooms – we say almost a reality because while systems capable of this sort of communication have been around – notably in the US – for a few years, they have tended to be highly proprietary and operate at a variety of radio frequencies making lack of inter-operability a big deterrent.

In the US, the Federal Communication Commission authorised the 902-928 MHz "spread spectrum" band as standard, several years ago, and a range of imaginative in-store radio systems have followed. ("Spread spectrum" is ideal for retail applications as it allows for high levels of data transmission and can support hundreds of terminals in a single network).

Now, prospective brides now wander through US stores with RF "hand-helds" beaming their wedding list preferences to a central registry; while "accompanied shopping", with sales staff roaming the aisles with high-spenders, portable checkout in hand, is becoming commonplace.

More significant for management has been the use of portable pen-computers which allow staff to interrogate back-office systems from remote store aisles. The DIY chain, Home Depot, has used portable Epos kit to sell seasonal merchandise such as Christmas trees from promotional areas outside the stores while Wal*Mart – often described as "the world's largest retailer" – is another enthusiastic exponent. It has equipped managers with Telxon 1134 RF pen-pads to interrogate central systems for stock and special order information from where customers make their enquiries.

Similar portables are used for all basic management functions so that managers and supervisors can spend more time on the shop floor with customers. As Randy Mott, Wal*Mart's chief information officer puts it: "There is now almost nothing our managers have to do in the back room".

Already around two-thirds of the top 20 per cent of US retailers in any product sector are installing RF networks and forecasters predict that this figure will reach 100 per cent within three years.

"The UK is lagging around two years behind the US in its use of wireless technology," suggests Rich Bravman, senior vice president and general manager of mobile and wireless systems at Symbol Technologies, "but you can expect similar expansion before the end of the decade."

Bringing the wireless reality closer in Europe has been adoption by ETSI (European Telecommunications Standards Institute) of the 2.4-2.4835 GHz band as a spread spectrum standard so that all European in-store RF systems can at least communicate in the same wave band and in July 1996 – after three years of debate – the IEEE 802.11 standard covering interface connections over the airwaves at 2.4 GHz began to be ratified, with the full standard expected by December. It will soon be possible for European users to mix-and-match components from different suppliers to form a wireless local area network (WLAN) that could eventually include both voice and data transmission.

"You can now think of RF as a wireless Ethernet," says Mr Bravman, "and it is going to be a very big boom area. We can also expect multiple vendor solutions and retailers will be able to redesign their stores without the need for cabling."

Well, almost. There are still two different sorts of spread spectrum: direct sequence and frequency hopping which are incompatible. Most systems tend to be of the frequency-hopping variety where development costs are lower while both AT&T's WaveLAN and Telxon's wireless options are direct sequence.

Symbol has already released its 802.11 compliant Spectrum 24 WLAN, elements of the standard are incorporated into WaveLAN, and IBM is expected to launch a similar product later this year. Its own prototype RF penpad – the SurePoint – was unveiled at the Retail Solutions exhibition in Birmingham in May.

"We'd expected a limited range of suitable applications for the unit," says marketing manager David Tron, "but we've been very surprised at the numbers of retailers wanting to use RF to access decision-making applications from anywhere within the enterprise."

Those applications range from stock-handling data at the goods-inward end of operations through to shop floor uses.

"The best prompt for any retail manager is what he or she can see on the shelves in terms of merchandise stocks – or lack of them," says Mr Tron. "This new generation of RF systems allows them to instantly check on the situation by interrogating central files as soon as the see a problem."

The trend is common across Europe with IBM currently trialling the SurePoint with retailers in the UK, Italy, and Spain with a German chain to follow shortly.

Steven Jordan, managing director of ASK Communications, UK distributor for WaveLAN is also predicting a boom: "We're expecting tremendous growth over the next couple of years.

"We find that retailers are putting in the system primarily to get flexibility of checkout location and then they begin to realise what other applications are possible and they start to really reap the benefits."

WaveLAN is widely used in the US while UK users include Littlewoods Stores which uses it in most outlets for checkout communications and to link to back-office systems for stock information. Other users include Allders and Debenhams and many argue that wireless systems are ideally suited to department stores where the need for flexible layouts and seasonal demands can act as an initial cost justifiable application.

Agreement on standards and mix-and-match peripherals are just the start: already companies such as ASK are looking at extending the spread spectrum range to 5 km, thanks to new antennae developments.

هكذا من الأجمل

■ Self-scanning in supermarkets • By Christopher Brown-Humes

Customers are cautious

Self-scanning puts customer honesty to the ultimate test – but the stores have built-in safeguards

Supermarkets have long wanted to cut check-out queues. Now some are giving customers a chance to avoid them entirely thanks to self-scanning, a system that turns the shopper into a check-out assistant.

It works simply enough: customers get a hand-held gadget – about the size of a mobile phone – when they enter the store and scan in the bar codes of their purchases as they tour the aisles.

They get a running total of their spending and a simplified payment procedure when they pass through a special check-out. It means customers do not have to unload and repack their shopping at the till.

So far, only a few retailers have embraced the concept. They include Safeway in the UK, Finast Supermarkets in Ohio in the US, and Holland's Albert Heijn, part of the Ahold group. Other supermarkets are watching the development closely, and some are planning trials soon.

Customers who use self-scanning are enthusiastic about it. They say it cuts out queues, puts them in control of spending, and is even a useful way to entertain the kids. Detractors say it is gimmicky gadgetry, does not save that much time – by the time you have processed all the items yourself – and gives you a job the supermarket itself should be doing.

So are the self-scan practitioners stealing a march on rivals or burdening themselves with unnecessary installation costs and uncertain benefits?

Safeway has no doubt about the benefits, saying its Shop & Go system is a valuable way to improve customer service. Around 100 Safeway stores already have self-scanners and it plans to extend the system to all its larger stores - some 150 to 160 of the group's 370 outlets.

"I believe we are the world leader in the application of self-scanning technology," says Colin Smith, chief executive of Safeway. Meanwhile, Albert Heijn, Europe's largest grocery chain, has installed self-scanning in 30 of its 650 stores.

In some ways, it is surprising more supermarkets have not adopted it. That partly reflects their caution in the face of a new concept, and partly the fact that it is only recently that the technology has become less cumbersome. But expense is also a consideration: Albert Heijn calculates that it costs around DFls100,000 to equip a store with up to 100 self-scanners.

The justification for such an outlay is not just that it improves customer service, it might even persuade shoppers to spend more. Instead of cautiously having to round up their purchases to ensure they do not overspend, customers can calculate costs exactly, so they might buy extra items if they have cash to spare.

Despite the claimed advantages, it is clear that there are a lot of technophobes out there. Safeway calculates that fewer than one-in-five customers uses self-scanning at its Camden store in North London – although it accounts for a higher amount of overall customer spend.

Heijn says 35 per cent of its customers use them – "scanners are most popular at week-ends, when shops are busier and people are buying more," says Mr Erik Muller, a spokesman for the Dutch group.

Observers say the scheme can provide an added point of difference for supermarkets, at a time of fierce competition for loyalty, and might even reduce labour costs. "The neatest thing about self-scanning it is that it cuts down on product-handling. You don't have to move things in and out of your trolley all the time. But there is a resistance in the consumer. A lot of shoppers don't trust these machines," says Mr Michael Poyner, retail director of the COBA consultancy group.

Scanning does, of course, put customer honesty to the ultimate test. But the stores have built-in safeguards. You have to be a user of Safeway's ABC loyalty card to use a scanner, so that automatically means it has your name and address. And there are random checks even for the regular user. There is a delicate balance to be struck here because too many checks would irritate customers. Mr Henri Henriques, store manager at Safeway's Camden store, admits the system has been abused in a very small number of cases – leading to prosecution in one case – but he insists that stock losses have not gone up overall.

Where does self-scanning go from here? Safeway is already planning to introduce unattended payment for self-scanners, meaning shoppers will be able to pay automatically with a credit card without seeing a cashier.

More generally, there is also talk about "entire basket" scanning, although that would be expensive because it involves a micro-chip rather than a bar-code on products.

Symbol Technologies, the UK group which claims to be the world-leader in bar-code driven data transactions, says self-scanners can help supermarkets target their promotions more accurately and provide higher levels of personalised service. It could allow customers to scan bar codes in catalogues, for example, and bring the technology into the home.

Mr Gordon Ambidge, group vice-president, says: "We expect to see portable personal shopping (PPS) taking off in do-it-yourself, cash-and-carry stores and non-food retailing. For busy people and those who really need to budget carefully, PPS is a useful budget tool. For the retailer, it is the first in a series of products which will help them to gain and keep the loyalty of customers."

■ Video systems • By George Black

Pictures sell products

New in-store video systems complement the salesman's skills

Video is being increasingly used to display and demonstrate products and assist in making sales. It could even be, in some future retailing scenario, the 'death' of a salesman.

The idea is not new. In the early 1980s, stores such as Woolworth began using video to promote items such as mechanical toys which could not otherwise be demonstrated without taking them out of their packaging.

This was frequently a way of re-using video advertising material shown on television and thus reinforcing its impact. The technique was soon successful.

Video has started to be used far more widely, particularly in the US and more recently in Europe. Do-it-yourself stores, for example, now use it to demonstrate processes such as laying a path and may also sell the video of the demonstration to the customer instead of – or as well as – a manual.

Overhead video programmes, using systems developed by the UK company Alphameric, are broadcast at banks, airports and petrol stations to sell to people in their unoccupied moments. Some stores also use video to demonstrate out-of-stock products which can be quickly ordered, thus gaining a sale which might otherwise have been lost.

Video may soon be used to sell video programmes – trials are being conducted by stores such retailers as W.H. Smith, Virgin and Tower, using systems which enable customers to select a video on a terminal and watch an extract to decide if they want to buy it.

In some large US stores there are now video clips being shown on overhead screens for customers to view while waiting at the checkout.

Wine and drink stores are interested in installing systems which use video to describe their wares and help customers to make their choice. Instead of a dedicated video terminal, video can now be combined with a point-of-sale terminal – which is essentially a personal computer – by using larger screens, perhaps as big as 10 ins across, and adding the necessary software.

A US chain store selling children's educational toys has installed a system which enables Pos terminals to show TV advertisements when not in use for sales transactions. This system was designed by the US software company Post Software International, recently acquired by ICL, the computer company.

The approach may also allow video to be combined with data and sound into a multimedia system which may be used by the customer as an interactive device. These facilities not only explain the product but direct the user about where to find it in the store, together with alternatives ways of paying for goods and insurance cover for the purchase. To achieve this may require all the latest IT capabilities – powerful server hardware, object software, video conferencing systems – to put it together. Systems are likely to be based on Microsoft's newest operating system, Windows NT; Microsoft is backing the concept, which may help to strengthen its position in the retail sector.

Video will usually only be installed on the point-of-sale (Pos) terminal in places where there are no queues and there is time for a demonstration. The application is most likely to be in outlets where expensive items are sold or where careful consideration by the prospective buyer is needed.

In the UK one of the pioneers is the Burton group, which is soon to pilot a fashion show application at its clothing stores, using hardware from Siemens-Nixdorf Information Systems and software from the US company, Unlimited Solutions.

Mr Alan Fynn, marketing director for USI in the UK, says there is great potential for systems of this type, partly because object software written in languages such as C++ makes it easier to integrate video into applications.

Multimedia point-of-sale systems can become their own points of sale, outside the showroom, either as a terminal or built into a kiosk. These are expected to spread at sites such as railway stations, airports and other places where people may have time to spare for shopping.

Mr Don Jackson, a senior management consultant for ICL Retail Systems, says that current experiments with video point the way ahead for a lot of retailers.

"Market research shows that many people dislike shops and showrooms because they fear being grabbed by a sales person and given the 'hard sell'," he says.

"Video at the point-of-sale enables them to serve themselves without feeling that pressure. Also, research shows that people are often more inclined to trust the information they get from a computer system than verbal details given by a sales person."

However, Mr Jackson doubts if video will ever be the 'death' of the salesman – "these systems will often complement the salesman's skills," he predicts. "Although video systems can be free-standing, they will often be used as part of a dialogue between the customer and the salesman."

He expects systems to move rapidly out of the trial phase into widespread implementation in the next few years. The chief drawback is the high cost of several of the elements of the systems: one of these is video production, notes Mr Justin Flute, creative services director for software house Julia Schofield Consultants.

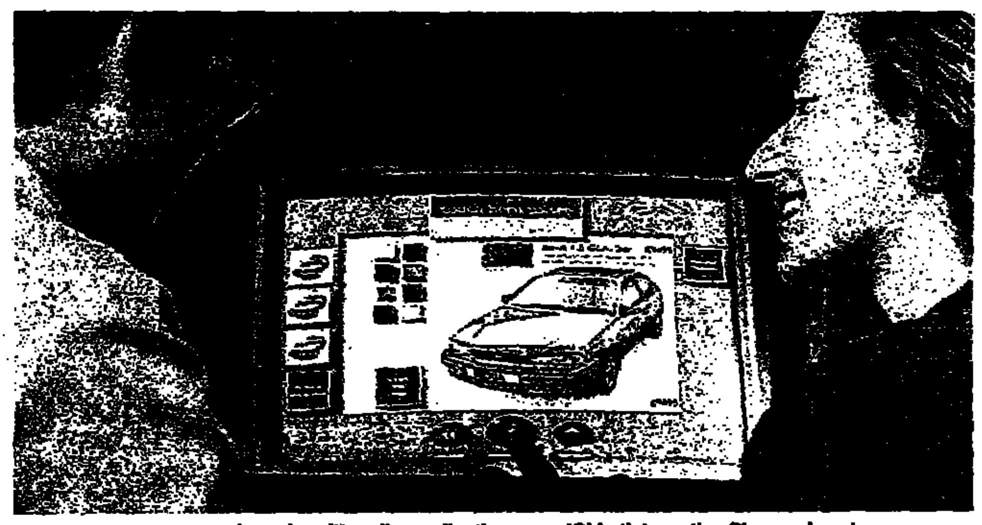
"Retailers will not want to spend a lot of money on a video to promote a product which they may only be selling for a few months," he says.

Multimedia kiosks

Continued from page 7:

on the fact that prospective customers could enter a showroom and browse through the kiosk without coming under unwelcome pressure. Each kiosk is built around a Pentium processor and networked to Daewoo's head office over private, leased circuits that permit the company to install changes overnight.

An external company, Julia Schofield Consultants, wrote Daewoo's multimedia software while UK-based IT firm, ICL, provided the PC hardware.



Daewoo's customer-activated multimedia application uses ICL's 'Interactive Shopper' system

Variations

Andrew Thompson, information systems director at Daewoo Cars in the UK, who has looked at the CarShop product, says: "Their approach is slightly different from ours – we put the terminal in at the retail outlet." But the philosophy of exploiting multimedia kiosks is the same. Both companies deliberately take a step back from the customer and allow technology to occupy the space vacated by human sales staff.

"We don't speak about salesmen," says Thompson. "We call them 'customer advisers' and our process allows the customer to make his own decisions and choices."

In its first year of operations, Daewoo sold 13,000 cars, or 0.63 per cent of the UK market. In the last 12 months it has sold nearly 16,000 cars, or 1.06 per cent of the market. It has 250 kiosks across 150 outlets.

"We see multimedia as integral to the way in which we do business," says Thompson. "It lets customers get the information they want without any feeling of being pressurised."

In a retail sector that has always suffered from an image of "the hard sell", the multimedia approach seems to be paying off. Two car retailers have used it to recreate the public perception of their sales pitch – and an increased willingness to make large purchases is the result.

■ Intelligent tagging • By George Black

How chips with antennae will benefit the supply chain

Electronic labels could replace barcodes in some areas of the retail business within a few years

Although barcodes are extremely cheap to apply to all sorts of items and in most cases have no big disadvantage, they are limited in functionality and unsuitable where code and reader cannot be easily brought together.

However, intelligent tagging systems – otherwise known as radio frequency identification or electronic labels, are essentially chips with antennae – which offer a flexible and powerful way of keeping track of goods and equipment.

Electronic tags can be programmed with a code chosen by the user; they do not need a battery, but are activated by a radio beam from the reader and can therefore be hidden. They enable many items per second to be collectively scanned, identified and counted at a distance of a metre and sometimes up to several metres. Items do not need to be separated and scanned individually.

The main drawback is the high price of the chips. Tags are available in various grades of sophistication, but the cheapest still cost 50 pence to £1 each, so it makes no commercial sense to attach them to items of low value. But as Mr Rusi Kathoke, finance director of the technology transfer company British Technology Group points out, the price of tags could drop to a few pence or less in the next five to ten years, which would make them affordable for many more business purposes.

Several leading IT suppliers have been developing tag systems, which could soon to become a large and lucrative market. The Centre for Exploitation of Science and Technology (CEST) in London, an independent think-tank, has been studying the potential. Its business analyst Mr Jeremy Holland says that whereas barcodes have mainly benefited retailers, intelligent tagging will eventually benefit the whole supply chain.

"It will happen eventually – it's a technology that is needed," he says. The Article Numbering Association, which sets standards for barcoding, is waiting in the wings. Its external relations manager Mr Graham Avory sees tagging as the next step, but believes it has a long way to go to gain critical mass.

"A lot of development has to be done yet before it takes off," he says. There will be resistance from users because of the cost, but adds that "the ANA is watching the situation closely and will be ready to set data standards for tagging when the moment is right".

He is confident that compatibility between intelligent tagging and barcodes can be maintained. The technology is evolving rapidly. Until recently the systems were read-only, but now read/write systems are starting to be employed. This will make the tags more easily re-usable and greatly increase the range of applications.

However, there is a need for firm technical standards an international level before many of prospective users will feel it safe to invest. Intelligent tagging has been in use since the early 1990s, but so far has been mainly confined to military or security applications, where the high cost is not a significant negative factor.

These systems are used in car security and to secure sites, such as oil rigs, as well as for transport of livestock. The same principles could be used to protect expensive electronic products in the home. However, electronic tags have not yet penetrated far into the retailing world – "they can do a lot of things, but not at a price that many people are prepared to pay," says Mr David Hyslop, sales manager for Tiris (Texas Instruments Registration and Identification Systems). The use of on shop goods is "futuristic", he says, and cannot predict when the price will fall far enough to make it possible.

Such tags are unlikely to be applied to supermarket produce for at least ten years, suggests Dr Ed Turner, head of the retail technology group at ICL, the computer company. But he believes that tags will eventually be applied in stores, as part of the self-scanning systems which some supermarkets are now introducing – see report, this page.

Various IT companies are planning pilot projects with potential customers in retailing. The first commercial products may emerge next year – early applications within retail will be in distribution and warehousing. Tags have already started to be attached to pallets, containers and boxes. They are also used by some supermarkets for tracking trolley movements, both to prevent shoplifting and to manage checkouts more efficiently.

Eventually, they will find a far wider range of uses in other industries, including baggage-handling at airports, parcel deliveries, road tolls and self-service libraries.

They will bring big advantages to the travel and entertainment businesses, helping to move groups of people through entrance and exit points more quickly without individual ticket-scanning. Tags could be permanently attached to objects to hold data about their history; for example, tags on electrical and electronic goods could record their date and place of sale and details of warranty, which could be useful when paperwork has been lost.

Embedded in spines of books, they could enable booksellers to do stock-taking in just a few minutes. They could also be used as anti-theft alarms, for instance for high-value clothing, being de-activated at the checkout after payment is made.

One example of such systems is called Supertag, which originated in a South African research laboratory. This has been acquired by the British Technology Group and is surrounded by patents. BTG has licensed Supertag to eight developers around the world.

A consortium of four Japanese companies, Seiko, Oki, Miyake and Takaya, last year reached an agreement with BTG to produce systems based on the Supertag technology. Other licences have been bought by ICL, Gemplus, the French magnetic stripe and smart card manufacturer; and the UK systems integrator, Oxley Systems.

FT IT

Software at Work

Advances in logistics distribution and supply chain management

■ **Knowledge sharing** ● By Rod Newing

Software moves to meet supply chain needs

Cost-cutting is fuelling the move towards greater co-operation between supplier and consumer. The key issue in distribution is managing information – not just boxes

As customers demand greater choice and better service, organisations are under pressure to create value at a lower cost. But hitting this target is often beyond the ability of an organisation working alone. As a result, many operators are forming partnerships with both customers and suppliers to focus the entire supply chain around customer demand.

Such partnerships can take many forms – *see reports on 'efficient consumer response' (ECR) and co-managed inventory, pages 4 to 6* – but they all require systems which enable a continuous flow of demand and supply information between enterprises. This means linking internal systems together as well as connecting to customers' and suppliers' systems. According to Steve Ellesmere, an executive consultant in the supply chain team at accountants and business advisers Ernst & Young *(http://www.woldserver.pipex.com/ernsty)*: "The challenge for today, which a lot of software houses are meeting, is to define a continuous process from customer demand through to supplier.

"This allows you an integrated information flow through the planning systems which sit between strategy and operational systems."

However, each product sold contains one or more components from different suppliers. Receiving a customer's own sales forecast requires a manual input to convert it into a list of the components needed and calculate the timing of their demand.

"You need to know constraints, such as line speeds, change-over times, activity rates and productivity levels, if you are to integrate planning into business processes," says Mr Ellesmere. "It is then possible to integrate customers and suppliers at the planning, as well operational, level."

Special planning software may be required to carry out this conversion. Alternatively, existing internal systems should be able to convert an internal sales forecast into a series of time-phased material requirements which can be communicated back to each supplier. However, recent findings by leading software exhibition organisers Softworld *(http://www.softinfo.com)* – carried out by Tate Bramald *(http://www.tbconsult.co.uk)* in association with the Institute of Logistics – suggest that software still has a long way to go.

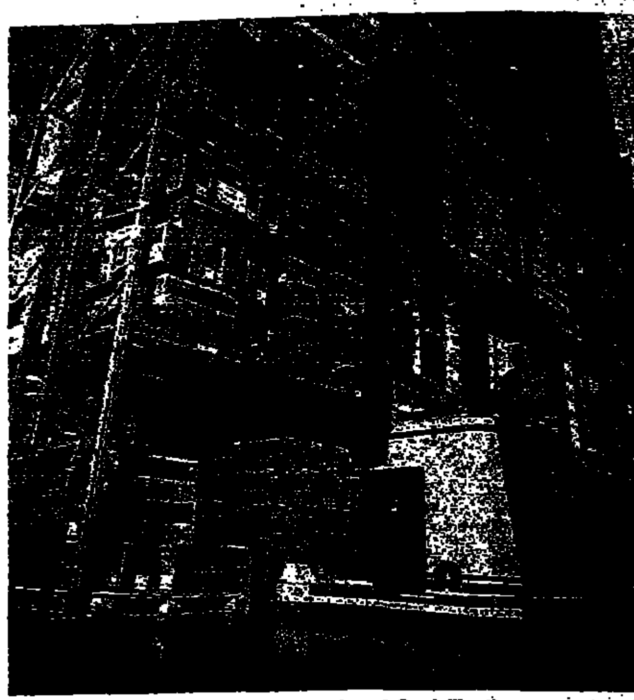
Jyoti Bannerjee, managing director at Tate Bramald, says: "Respondents found that software is delivering the benefits in traditional areas, such as order processing, inventory management and procurement. However, the new important areas of demand forecasting, distribution requirements planning, strategic planning and supply chain simulation are not yet meeting expectations."

Organisations in a supply chain are increasingly using electronic data interchange to transmit data directly between their computers as part of a formalised system. "We found that the most important technology initiatives are electronic data interchange and integrating islands of automation," adds Mr Bannerjee.

This is backed up by a study by management consultants P-E International *(http://www.peint.com/pehome/)*, also with the Institute of Logistics, which shows that more than 50 per cent of respondents will be implementing EDI, multinational systems and forecasting/planning/replenishment in the next three years, as opposed to only a third who already have them.

"[Leading integrated packages] such as System Software Associates' BPCS *(http://www.ssax.com)* and SAP's R3 *(http://www.sap-ag.de)* don't yet have the level of sophistication," says Jerry Brown, a manager at logistics consultancy Druid *(http://www.druid.co.uk)*. "However, they have the backbone to pass information very quickly, but you still need to bolt on best-of-breed packages, such as Demand Forecasting from American Software *(http://www.amsoftware.com)*."

Businesses also need access to each other's systems informally and interactively to place or track the progress of an order, check on suppliers' or customers' inventory levels,



Canon copiers' UK distribution centre at Coalville: the Logoi system from Mercia Software helped expand the service operation

get new product information or seek technical help.

This can be achieved in a number of ways. Lotus Notes allows businesses to make inter-company information sharing and workflow the foundation for a virtual organisation, offering speed and flexibility through the supply chain. Dial-in access to computer systems can be established and the next step will be to give partners access to internal information and systems through their own area in an internal corporate Intranet, using World Wide Web technology.

According to Paul Rogers, global industry consultant at Systems Software Associates: "The use of the Web will help provide simple-to-use access to BPCS for trading partners who are not familiar with our systems.

"A customer can interrogate the inventory system and then place an order through the sales order processing module using a just a simple Java applet."

A very good example of exploiting the Internet is General Electric's Trading Process Network *(http://www.tpn.geis.com)*. In 1995, it

> Businesses need access to each others' systems to track progress on orders

was used in the General Electric family of companies where more than $250m-worth of goods and services was traded by a supplier community of 800 businesses.

Any business can now visit this site to provide details of its products, services, facilities or production processes. It may then receive and respond to relevant invitations to tender without having to waste time in qualification meetings with General Electric. The system will soon be made available to other manufacturers.

An interesting use of Internet technology is being made by new supply chain software vendor Red Pepper *(http://www.pepper.com)*. It is using intelligent agents developed for Nasa to produce supply chain models which can optimise around certain constraints. These optimisations can be shared with trading partners over the Internet while discussing them by telephone.

Whatever technology is chosen, there is a need for enterprise-wide data and the resultant emphasis on client/server architecture. "Systems must be multilingual and support a wide variety of multi-currency and multi-business entity needs," says Tate Bramald's Mr Bannerjee. "These include international transportation, replenishment planning, import/export complexities and cross-border transfers within an enterprise."

Jan Szymankiewitz, managing director at PE's logistics consulting service, says: "IT is the key enabling factor as organisations restructure their European businesses.

"However, US companies are better at managing on a pan-European basis than European companies, because of their experience of the large North American market. In contrast, Far Eastern companies are taking a more country-centric view of their systems."

But there are problems finding suitable software. "There don't seem to be any real international logistics packages for client/server on the market," says David Turner, CODA Marketing communications manager. "We have tried without success to partner a specialist supplier to complement our international financial package.

"The problem is logistics packages are so huge that re-writing so much code from scratch – as we did with CODA-Financials – is a formidable task. Many suppliers just port old systems or put a Windows screen-scraper on them, which covers the cracks, but isn't a satisfactory technical solution for the long term."

Systems Software Associates' Mr Rogers adds: "The use of distributed object technology is transforming the ease of use of enterprise applications and the potential offered to companies to reconfigure their business processes to meet daily changes in requirements. "This contrasts with the traditional cumbersome approach needed to reconfigure those systems operating on yesterday's technology."

Logistics and distribution is now more about managing information than boxes. "The supply chain has to be mirrored in the communication system," Mr Rogers says. "The quality of data is now as important as product quality," adds Druid's Mr Brown.

A separate survey on the logistics sector will be published in the Financial Times on Monday, October 14, 1996.

An assistant checks stocks at Somerfield's store at Spalding, Lincolnshire. Service-level improvements are seen as significant in a market where margins are tight – failure to display a product will not only lose a sale but may also lose the customer to a competitor

■ European retailing application • By John Kavanagh

Electronic partnership with supermarket suppliers

Big name companies have linked-up in a pioneer project with Somerfield

Inventory cuts of 25 per cent at the UK supermarket chain, Somerfield, have proved the potential of a new form of electronic partnership with suppliers – but also provided some salutary lessons about commitment and organisation.

The company has completed what is believed to be the first significant trial of co-managed inventory in Europe. It involved 12 big-name manufacturers such as Bass, Cadbury, Chivers Hartley, Kraft Jacobs Suchard, Lever Brothers, Nestle and Reckitt & Colman.

In co-managed inventory, the customer organisation provides sales data and forecasts and the supplier uses the information to replenish stocks without needing formal orders. The supplier in effect becomes an extension of the customer's warehouse and stock-control system.

Data, acknowledgements and delivery advice are exchanged automatically by electronic data interchange (EDI). Sales data can be gathered periodically by a program at the customer end, automatically put into a standard EDI message and sent to the supplier's computer, where it can be passed to accounting, warehouse and stock control systems.

Indeed, there could be no human involvement from the time a purchase is recorded at a check-out until the printing of a picking list at a supplier's warehouse.

All this is quite an achievement for Somerfield, which only started electronic trading two-and-a-half years ago. But chief executive David Simons made his mark soon after he joined by determining that the company should catch up with its competitors: he set a target of EDI for 80 per cent of orders for canned and packaged goods for its 609 stores within six months.

By dedicating a small team to the project and involving suppliers closely throughout, Somerfield beat this target in just three months, establishing electronic trading with 360 companies and reaching 600 within a year. It won an award from network services company GE Information Services for the fastest-ever roll-out of EDI.

Benefits of the initial electronic trading project ranged from staff cuts of 10 per cent in ordering and inventory management, to reductions in the order-delivery cycle from five days to two.

The subsequent 12-month co-managed inventory project has been more of an experiment than an immediate imperative, although most of the 12 suppliers are continuing to trade in this way and some are now talking to other retailers about starting trials.

Somerfield kept the technical side of the experiment simple, to get going quickly, by using the POS*Intelligence software and service from EDI network specialist GE Information Services. This runs on GE's central computer and combines the last two years' sales data, plus daily updates on movements of items from Somerfield's Ross-on-Wye distribution centre to its supermarkets.

The system uses the data to provide rolling 39-week forecasts on individual products. Suppliers' advertising and other promotion activities are also taken into account.

The ultimate in co-managed inventory is for suppliers to set up deliveries based on the data and forecasts. However, Somerfield's internal procedures demand that orders have a reference number allocated by the company, so the system generates an EDI acknowledgement message from the supplier which goes back to Somerfield, where an EDI order message containing a Somerfield reference number is produced and sent in the traditional way.

Somerfield is now looking to eliminate this 'to-ing and fro-ing' but did not want to hold up the experiment with a lot of system development.

The results, measured simply on delivery performance, range from impressive to indifferent, although Somerfield is satisfied overall.

"Genuine hard and soft benefits have been achieved," says supply chain manager Mrs Jane Winters. "More than half the suppliers reduced stock at our distribution centre by 11 to 25 per cent. Half improved service levels by 1.45 to 2.5 per cent."

The service-level improvements are seen as significant in a market where margins are tight and failure to have a product on a supermarket shelf can not only lose the sale of the product but also lose the customer to a competitor.

Most suppliers were doing weekly deliveries, which cut the scope for stock reductions, says Mrs Winters. The potential for spectacular gains was also reduced by the fact that there are already "no major supply chain inefficiencies" in the UK retail grocery business.

Reckitt & Colman was one of the most successful suppliers, increasing the number of orders delivered correctly and on time to more than 99 per cent. Mr Mike Trevor, head of logistics, says the performance differences across the participants were down to commitment and organisation.

"We dedicated resources and trained our staff properly," he says.

"Training is important because order processing becomes replenishment management: staff are no longer handling orders but forecasts and delivery schedules. Some suppliers were enthusiastic about co-managed inventory but saw it as just an add-on to customer sales."

Mr Trevor sees great potential in the sales data: "Forecasts are usually made at high levels, focusing on total volumes for the year, and it's very difficult to see the precise mix of individual colours and carton sizes. Co-managed inventory gives us the data on this."

Jane Winters at Somerfield agrees that organisation is important: "The trial gave a better understanding of the total supply chain. It helped to focus on business processes.

"The most successful suppliers organised the trial as a logistics or supply chain development project, establishing a cross-function team with both forecasting and inventory control expertise, under a strong project manager. IT and sales and marketing were represented in the successful teams but did not play the dominant role."

Mrs Winters says that top management commitment all round is important, and no big changes are needed to the terms and conditions of doing business.

She adds: "It is vital that the retailer and its suppliers already have a mature, intelligent and non-adversarial relationship, as there must be a high degree of trust."

Mike Trevor at Reckitt & Colman agrees: "We have a much close relationship with Somerfield now," he says. "We're not negotiating new discounts because of co-managed inventory: instead, we're working together, not so much as customer and supplier but rather as partners, with the consumer as our focal point."

☐ GE Information Services is on +44 1932 776000.

■ Supply chain management • By George Black

Arguments far from over

Senior managers are looking for systems which they can interrogate at any time to keep an eye on business progress. The software choice is between integrated systems and best-of-breed packages

Integrated application suites, combining distribution with manufacturing, accounting and other functions have become the generally accepted form of business systems among large companies.

The rapid rise of software suppliers, such as SAP, selling such integrated solutions is evidence that the integrated approach is winning the battle against the best-of-breed, point solutions or mix-and-match approach – though the arguments are far from over.

The German developer SAP has become the fifth largest software house in the world on the strength of the integrated approach. System Software Associates (SSA) also attributes its success largely to that formula, as does J.D. Edwards, seventeenth and eighteenth respectively in the top hundred software companies compiled by Software Magazine.

JBA, a rare example of international success for a UK supplier, has built up its business on a suite of similar broad functionality.

Logistics software vendors with stand-alone products do not feature prominently in the top ranks of software companies, which suggests that their message is not winning favour, at least among those companies which spend a lot of money on applications.

The main reason for this seems to be that users believe they cannot afford the high cost of the people who would be needed to carry out the integration of separate applications. The skills are hard to find and the work might take a considerable time.

Another reason may be that users are not convinced that buying best-of-breed packages and linking them together will deliver any competitive advantage. Both arguments can be challenged. Reports by analysts such as Forrester Research point to the high cost of implementing integrated packages, particularly SAP's R/3. Some industry watchers say that hardly any complete R/3 system has so far been installed.

Mr Simon Bevan, European general manager for business applications at software house Computer Associates, says that integrated suites may have significant disadvantages for some users: "An integrated suite can give you so much software that it becomes very complicated to implement and costs you a lot extra on your computer hardware," he says.

Linking stand-alone packages which have been designed for that purpose might not therefore work out much more expensive.

Viewpoints

On the question of competitive advantage, SAP's advertising asserts that its users show a better return on assets and profitability record. But rivals from the other camp could, no doubt, issue counter-claims. It may be that neither side is entitled to claim the credit for users' successes.

Mr Mark Simmons, a partner with the management consultancy Ernst & Young, warns that automation is wrongly regarded as a panacea.

"Companies should re-engineer their processes first, then look for the best systems to support them," he says.

He is sceptical about the notion of all-inclusive applications. Integrated suites may not deliver all the functionality that users need, he adds – "many are weak on purchase order management, for example. You cannot manage the operation to find out how well you are purchasing".

In such cases, a bolt-on package might be better, in his view. This seems to be borne out to some extent by the tendency of users of SAP's R/3 and other integrated suites to augment them with specialised distribution software products.

SAP and Manugistics have been working to join their products together, partly to strengthen the distribution planning capabilities of SAP's suite. Mr Simon Ratcliffe, a senior supply chain manager for British Airways, says: "Single solutions rarely provide the breadth of functionality required."

He evaluated and rejected integrated suites and went for best-of-breed instead, picking Manugistics' software.

Whitbread Beer Company also went for best-of-breed because it thought an integrated solution involved too high a risk and could involve lengthy tailoring to its needs, according to the director of supply planning projects, Mr Kevin Kelly. For supplying its Thresher off-licences and other outlets, the company chose an E3 system.

Nevertheless, there is little doubt that best-of-breed has been for several years on the losing side of the argument. In the early 1980s it was a natural progression from the previous generation of bespoke applications developed by in-house departments (though much of this is still in use) or from unsatisfactory packaged software.

Many packages originated as development projects for a single client and were later turned into products, including many of the idiosyncratic features provided for their first user.

The decision to buy best-of-breed packages followed from this and was – to some extent – successful, but it depended on the existence of large inhouse computer departments to weld applications together.

By the end of the 1980s those in-house resources began to shrink rapidly, first because of the spread of outsourcing and then because of the arrival of another economic recession.

New software vendors soon began to exploit this market opportunity with products designed from the outset as packages. The success of SAP and others offering similar products can be attributed largely to their ability to provide comprehensive systems to users who had already abandoned the best-of-breed approach for lack of resources.

Distribution software is increasingly being called supply chain management systems, a term which reflects the interdependence of logistics, production and finance and perhaps predisposes buyers to integrated suites.

Key decisions

Purchasing decisions are taken at top management level, often after months of deliberation, and regarded as crucial to the business. Many companies are looking not just for a software supplier, but for a strategic partner.

Mr Mike Nutter, managing director for software house Movex UK (owned by the Swedish company Intentia International), says that users view investment in integrated solutions as a strategic decision to support their management systems across the whole company.

"It is very hard to do business process re-engineering with three or four different packages, even if they are best-of-breed," he says.

Senior managers are looking for systems which they can interrogate at any time to keep an eye on the progress of the business. Systems which are merely interfaced, not integrated, may be updated in batch mode and therefore do not provide managers with instant and accurate information across the entire enterprise. But the case for best-of-breed is not dead yet; and the argument looks set to continue.

■ Award for excellence in using information systems • Report by John Kavanagh

Insurer's radical new approach

How Eagle Star Life redeveloped all its information systems to protect its future

Eagle Star Life can now get new insurance products from conception to market in a week, following a total redevelopment of computer systems and the establishment of close partnerships between IT and business people.

Its achievement has been publicly recognised when it won the British Computer Society's Award for Excellence in Information Systems Management this year.

The company bit the bullet in 1990 as it found that old systems – and old attitudes to customers – were hitting business.

"The market was changing, as people's expectations grew," says IT manager Mark Sheridan. "In the boom years, insurance companies more or less offered products with a 'take it or leave it' attitude. But customers were finding more choice, with growing competition between banks and building societies, portable pensions and unitised products, which they could chop and change, rather than separate, isolated insurance products."

Eagle Star Life saw that redevelopment of all its systems was the only way forward. At the time there were separate systems and files for each product. These ran on a central mainframe computer with limited online access through terminals. Most telephone inquiries were replied to by letter.

Today, the systems still run on a central IBM mainframe and are still mostly written in the old Cobol programming language. But similarities end there.

There is now just one central database, using IBM's DB/2 software, which provides access to all policies and investment schemes held by a customer, through a single reference. Information about a customer is entered just once.

"Previously, staff tended to handle specific products, and there was a lot of paper-passing between sections," Mr Sheridan says. "Today, everyone can get the full picture of a client."

All staff now have Compaq PCs linked to the mainframe, so they can handle telephone inquiries immediately. They have Microsoft Word and Excel for producing personalised letters and spreadsheets.

Work-flow software passes customer inquiries and administration to available people in the appropriate areas. Eagle Star Life is considering enhancing this with document imaging, cutting paperwork still further.

Product development

Because all the customer record handling is managed through a single database, systems to support new products can be developed far more quickly and added or taken away at will.

"We now build systems and products in a modular way and plug them into the database," Mr Sheridan says. "The same applies if we add a new feature to an existing product.

"This is reflected in the way we deal with customers. If someone wants to add serious illness cover, we no longer sell them a new policy: we add it to their existing single portfolio.

"This means customers aren't burdened with a dozen policy numbers. Indeed, we can find all a customer's details without knowing any policy numbers."

This approach has cut the time needed to get a new product to market from months to days. The average is 10-15 days; the fastest from raw idea to live product has been five days.

Achieving this radically new way of operating has involved equally radically new approaches to IT development.

Support of the existing systems was contracted out to software company K3. This freed the 160 staff to focus on the new project.

Software packages were evaluated but rejected because they only provided 80 per cent of what was wanted. "We would have to spend a lot more to get a 100 per cent fit," Mr Sheridan says. "It was a choice between keeping up with the market or leapfrogging into the future to be ready for all the changes that were going on."

Andersen Consulting was called in and at the peak there were also 70 contract staff, taking the total head-count to 350.

Cobol was chosen because Eagle Star Life's staff knew it and it is well established and still the most widely used language, so there would be less problem finding skills. In addition, 60 per cent of the processing is still batch work, to which Cobol is suited.

Programs were written on PCs, using Micro Focus Cobol, which runs across computers of different

Continued on page 13

Focus on California

A birthplace for innovative IT ventures

Computer-generated image developed by 3Dfx Interactive

■ Investment in information technology • By Louise Kehoe in San Francisco

Venture capitalists' key role in Silicon Valley

A 'hands on' approach is the hallmark of prominent West Coast venture capital groups. Financial backers open doors that might otherwise remain closed to the founders of start-up companies in the IT sector

California's Silicon Valley is reknowned for its concentration of high technology companies making semiconductor chips, computer, communications equipment and software. Yet one of the region's most important products is sometimes overlooked.

The "Valley" – it has long since extended beyond the Santa Clara Valley to encompass much of the San Francisco Bay Area – is extraordinarily fertile ground for the growth of new businesses. It seems to be infested with an enthusiasm for entrepreneurship that is hard to match in any other part of the world.

Each year, several hundred new technology ventures are *formed* in the region by the close-to-the-top employees of established companies. Some would-be entrepreneurs are lured to form new businesses by the dream of building the "next Netscape" and the get-rich-quick promise of founders' stock options. Many, however, are driven by a belief that they can create new markets with truly innovative products.

There are plenty of legends to inspire the would-be entrepreneur in Silicon Valley: Bill Hewlett and the late David Packard of Hewlett-Packard, Intel's founders Gordon Moore, the late Robert Noyce and Andrew Grove, Steve Jobs and Stephen Wozniak who built the first Apple computer in a garage, the Stanford University group that formed Sun Microsystems, and now, Jim Clark and Mark Andreessen – *pictured right* – at Netscape Communications.

Academic studies have, not surprisingly, linked the growth of Silicon Valley to the proximity of centres of learning such as Stanford University and the Berkeley campus of the University of California.

Yet there are many other *economic and cultural factors* that have combined to make the Silicon Valley a unique centre of start-up activities.

Most important, is "the network". This is not a computer network – although technology has increased its efficiency with electronic communications – but rather a closely knit community of Silicon Valley venture capitalists, lawyers, marketers, press relations experts, 'head hunters', real estate agents and others who assist entrepreneurs with the process of creating new businesses.

In particular, the venture capitalist community plays an active role in the formation and nurturing of new businesses. The 'hands on' approach is a hallmark of prominent West Coast venture capital groups, involving investors in honing business plans, market analysis, *establishing strategic directions* and, frequently, in selecting senior staff for a new company.

The venture capitalists open doors that might otherwise remain closed to the founders of start-up companies. They may introduce an entrepreneur to potential technology partners or become involved *in* negotiating licensing, distribution or joint venture deals.

As the backers of new companies, the venture capi*talists typically sit on the* board of directors and recommend lawyers, press relations experts and others who play an important part in getting the new-born company on its feet.

The "network" also provides valuable intelligence about the activities of potential competitors, up-to-the-minute information about the latest technology advances and, very importantly, places new business managers "in the loop".

Whether a start-up company is working on computer networking products or Internet software, designing graphics chips or computer games, keeping in close contact with the latest developments at companies such as Intel, Cisco Systems, Microsoft and others that set standards for the entire IT industry, is often critical to success.

Working in close proximity to both business partners and competitors is a fact of life for many Silicon Valley companies. The biggest com*petitor is often located* just down the street. In the computer networking equipment market, for example, Cisco Systems, Bay Networks and 3Com are all three in Silicon Valley, within a ten-mile radius.

Some might see this as a disadvantage. Indeed, it is a long-standing joke in Silicon Valley that engineers change jobs simply by turning into the next parking lot (car park) on their way to work.

> 'Engineers change jobs simply by turning into the next parking lot'

Already a Californian legend: Marc Andreessen, the 25-year-old software genius who is co-founder with Jim Clark – former chairman of Silicon Graphics – of Netscape Communications. Andreessen is now a multi-millionaire, a business celebrity and an Internet guru. Netscape's browser product offers easy access to the Net through the World Wide Web. Now Netscape and Microsoft are leapfrogging each other in a battle to dominate the market for web software: see also report on page 2

Yet the close proximity of competitors rules out secrecy and imposes an informal "peer review" process on any Silicon Valley company. Under the close scrutiny of other high tech companies, new ventures are *quickly recognised as* winners or losers.

Another advantage for Silicon Valley companies is the opportunity to address a *"home" market for information* technology products that is the world's largest. Very quickly, however, successful California start-ups seek international market opportunities.

Established Silicon Valley companies typically sell 40-60 per cent of their products outside the US, with Europe as the biggest over*seas market for computer* manufacturers and software developers, while Japan is the biggest international market for US chipmakers.

*For the US start-up com*pany, however, international markets are often daunting. Europe represents a confusing unified yet nationally divided market. Japan and other Asian countries have unfamiliar distribution systems and close-knit business groupings.

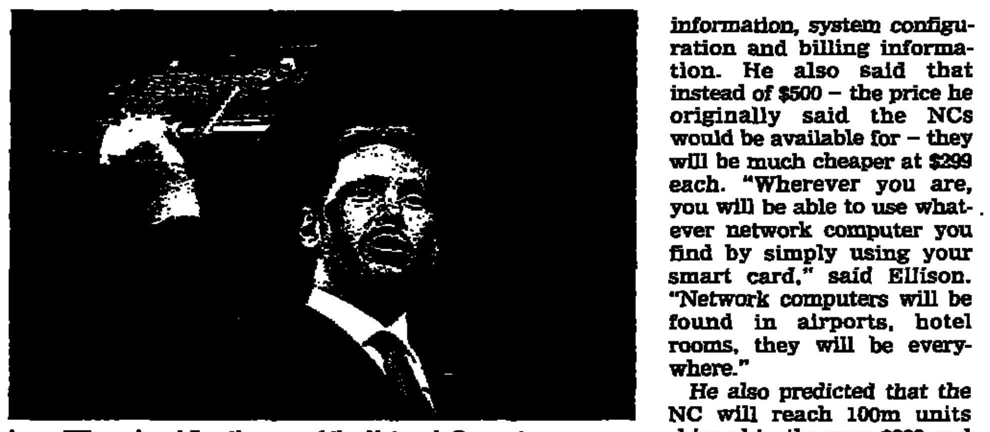
Business partnerships are an important part of this *move beyond domestic sales.* International partnerships are often critical to the success of a US technology venture. They may also moreover, create opportunities for European and Asian businesses to plug into the Silicon Valley "network".

Laying the foundations for the digital studio of the 21st century: Silicon Studio pioneers "virtual set" technology, which combines live actors with computer-generated graphics

■ Internet spin-offs • By Tom Foremski

Key centre for developing new Internet devices

Researchers are racing to develop network computers and *WebTVs – TV sets* that can access the Internet and browse world wide web sites



Larry Ellison: heralding the age of the Network Computer

Northern California has become a key centre for the development of new types of Internet devices that turn the traditional PC architecture on its head and embed Internet connectivity with *computer functions* into a wide range of devices ranging from simple network computers to consumer applications.

Larry Ellison, head of database software company, Oracle Systems, has been the most vocal proponent of what are being called network computers or NCs. These are very simple computers with an Ethernet card for network connections or a modem for dial-up Internet connections.

Unlike the "thick client" model represented by the PC with its high performance microprocessor, its huge hard drives and large amounts of memory, and a complex operating system such as Windows 95 or MacOS, the NC is a "thin client" model, a return to *the networked terminal concept.*

"A typical NC will have an Intel Pentium microprocessor, no hard drive, 8 megabytes of memory, an Ethernet card or modem – and that's it," says Ellison. "Unlike Microsoft, which is making the PC *more* complex, we are trying to make the PC simpler. It has to be something that I can use and something that my mother can use."

Ellison points out that about 30 per cent of US households have a PC, and while this is lauded as an achievement, it means that 70 per cent of US households have no computers at all, representing a huge potential market for cheap and effective computing.

Corporations are also expected to be a big market for NCs. Although corporations can afford the price of a PC for most workers, it is the support and maintenance costs that are the large financial burden. Intel estimates that it costs about $8,000 a year to support the typical corporate PC user. This is a big selling point for NCs, that they can drastically cut this expense.

Without any local data storage such as a hard drive *or floppy drive, users are* unable to load their own software, and they are forced to use the applications available on the corporate servers. All files are also stored on the servers. With a specific list of applications to support, it is easier for corporations to help users, and with no local data storage, facilities such as backup are easier and more effective since all data gets backed up. In addition, security is improved.

With technologies such as Sun Microsystems's cross platform Java computer language, users can download slim Java applications over a corporate network at Ethernet speeds, and run them on their NCs. In a way, it is overturning the personal computer revolution by returning control over computers within an organisation back to the MIS department.

But will NC users like the fact that their files are stored on a remote server somewhere else? Sun CEO Scott McNealy, another vocal supporter of NCs, thinks users *will* get used to the idea.

"If you think about the data storage on remote servers as the same as keeping *your money* at the bank, rather than under your mattress, it makes a lot of sense. People don't lose their money in their bank but they can easily lose it from under their mattress," said McNealy at a recent conference.

Ellison says that NCs will have smart card readers and that users will carry these cards around with them, containing their personal information, system configuration and billing information. He also said that instead of $500 – the price he originally said the NCs would be available for – they will be much cheaper at $299 each. "Wherever you are, you will be able to use whatever network computer you find by simply using your smart card," said Ellison. "Network computers will be found in airports, hotel rooms, they will be everywhere."

He also predicted that the NC will reach 100m units shipped in the year 2000 and that it will lead to a shake out in the PC industry. "There is no need to have so many PC makers, it will be like the automobile industry where there are three major manufacturers," he says.

Simple computer devices with Internet connectivity can be made even simpler and integrated into a lot of different electronics applications. WebTV Networks and Diba, both northern California-based, are working on creating the concept of the information appliance. A key focus right now is on what are being called WebTVs, TV sets with the ability to access the Internet and browse world wide web sites.

Almost every large TV *manufacturer has* announced WebTV models or plans to introduce such TVs over the next year. And many of those manufactur*ers have licensed key tech*nologies from WebTV Networks or Diba.

These technologies include the ability to display text on a TV screen which does not have the same crisp resolution as a computer monitor. WeBTV and Diba, have also developed slim versions of Internet software such as web browsers that can easily fit into about 2 megabytes of memory chips.

Diba sees a big market for consumer devices, mostly *dedicated to single applica*tions. For example, a kitchen might have an Internet appliance whose specialty is recipes. Users would be able to search web sites for recipes and access nutritional information. Or it could be a type of smart phone with Internet access and capable of receiving and sending e-mail. Diba hopes that electronics products manufacturers will take up Diba's Internet appliance specifications and bring Internet *access to a wide variety of* different electronics devices.

US market research firm International Data Corporation (IDC) predicts that with network computers and Internet appliances, there will come a time, when there will be more computer devices connected to the Internet than users.

By the end of this year, IDC says there will be about 35m Internet users sharing about 30m computers connected to the Internet.

But by the year 2000, there will be more computer devices connected to the Internet than actual users because of the proliferation of network computers, households with two or more computers, and Internet appliances. IDC says that by 2000 there will be 233m of these devices connected to the Internet with about 163m users.

■ Investment and partnering forum

'Cal-IT Europe' in London

October conference will bring together European investors and innovative California IT companies

Nowhere is IT development as dynamic as in California – home to 44 per cent of the fastest growing high technology manufacturers *and more than a third of* new venture-backed IT companies in the US.

The Financial Times is co-sponsoring a conference, 'Cal-IT Europe', at London's Queen Elizabeth Centre in Westminster, on Thursday, October 10 and Friday October 11 that will bring together European investors and some of these innovative California companies.

The theme of day one of the investment and partnering forum will be 'Computing in the Year 2000'. Day two will focus on modern communications.

□ Details of participating companies and access to on-line registration are available on a dedicated *part of the FT's web site,* at: *http://www.ft.com/calit/calhome.htm.*

□ For telephone details of registration and bookings call Lindy Bird in London on +44 171 336 8710, fax +44 171 336 8703; email *cadogan@III.co.uk*

□ In Germany, information is available from Trudi Schifter, managing director, State of California European Offices of Trade and Investment, tel +49 69 743 2461, fax +49 69 745 005; email: *trudi.schifter@cal-trade.gov*

□ Details of presenting companies are available from Jennifer Stanley, California Trade & Commerce Agency in *Sacramento, tel* (916) 323 5668, fax (916) 322 3401 or 324 5791, email: *stanleyj@smtp.doc.cagov*

■ Next month's FT-IT Review • Focus on Asia

Review of India's software industry

Now a global software competitor with a turnover of $1bn a year

The phenomenal growth of India's software industry will be featured in a special report by Paul Taylor and other FT correspondents with next month's FT *Review of Information Technology.*

This report, to be published on Wednesday November 6, will chart the *emergence of India as an* important force in the $300bn global software industry.

More than 300 companies – employing 14,000 technical staff – prepare software programmes for export to the world's banking, insurance, manufacturing, transport and defence industries.

While North America and Europe are still asleep, programmers in Bangalore and other Indian cities are maintaining software systems and fixing 'bugs' for financial service companies, using high-speed data links.

□ In next month's FT-IT Review we also hope to include the first in a series of articles on Singapore – The Intelligent Island.

Among the booming Asian Tiger economies, the city-state of Singapore is unique. A population of 3.2m occupy an island the same size as London within the M25 corridor.

As part of an aggressive policy of maximising all economic resources, Singapore has become the first government in history to focus on knowledge-management as a tool of economic status.

'IT 2000' is an ambitious S$200m scheme that involves pump-priming dozens of IT companies and underwriting key projects. The aim is to *create a society where infor*mation flows freely and departments of state work in concert with private industry through paperless communication. This vision is frequently called the intelligent island.

The intelligent island, pursued by the National Computer Board (NCB) through eight clusters centred on economic and user sectors, is envisaged as part of everyday life.

For example, the blue cars of Singapore's Comfort Cabs company have begun to sprout receivers for the global positioning system (GPS) pioneered by the US military.

Local software house Knowledge Engineering received a S$377,000 government grant towards creating a S$30m fleet management system. This uses a geographical database of the island's roads system and lays taxi positions, constantly updated by the satellite-based GPS signals, on top of road routes. Dispatchers summon up the address of callers and look for the little blue cab icon that is nearest to the customer.

□ For more editorial details of the November Review, please see page two of this issue regarding the Fax-U-Back service.

□ E-mail editorial inquiries: FT.IT@FT.Com.

□ For advertising details, contact:

□ In London: Simon Larter, Dominic Morgan, FT Advertisement Sales: tel. (+44) 0171 873 4129 or fax (+44) 0171 873 3062.

□ In the US: New York office: Gavin Bishop, on (212) 745 1342.

□ San Francisco office: Nick Mayle, on (415) 637 9775.

■ California start-ups

Birthplace of emerging technologies

Tom Foremski highlights the increase of Internet-related companies in Silicon Valley

The rapid rise of the Internet and the use of Internet technologies within companies – known as intranets – has spawned a large number of start-up companies targeting these markets, with the majority of them centred in and around northern California's Silicon Valley.

California is a natural breeding ground for such companies because of two factors. Leading network communications companies such as Cisco Systems, Bay Networks and 3Com have their headquarters there, and as executives from these and other Silicon Valley companies leave to start their own ventures, the area provides a large pool of talented people to staff the start-ups.

Secondly, there is a great amount of venture capital money in Silicon Valley, making access to key start-up capital – and second and third financing – more readily available there than anywhere else in the US, or the world.

"Venture capitalists are telling me that they are funding mostly Internet-related companies, and most of them intend to use our Java language. This is unprecedented," said Sun Microsystems chief executive Scott McNealy at a recent computer industry conference.

Sun's Java computer language is aimed squarely at Internet applications since it allows distribution of software applications over networks, and it is 'platform independent' which allows programmers to create a single application rather than multiple versions that run on different hardware platforms.

Venture capital interest in the Internet and Java-related products is demonstrated by leading Silicon Valley venture capital firm Kleiner Perkins Caufield & Byers (KPCB), and its recently established Java Fund, which has raised $100m from individual investors and ten leading computer industry companies.

KPCB and Sun Microsystems are the two largest investors in the fund followed by Cisco Systems, Comcast, Compaq Computer, IBM, Itochu, Netscape Communications, Oracle, TCI Technology Ventures and US West Media Group who have invested at least $4m each.

The Java Fund has made initial investments in Active Software, Calico Technology, and Marimba. Active Software, founded in 1995, develops a software communications system, ActiveWeb, that allows dissimilar resources such as applications, databases, and Java-enabled web browsers to exchange information across corporate intranets and the Internet.

Calico Technology is a provider of interactive, enterprise configuration products that automate the configuration and quotation of build-to-order products and services – and Marimba provides technologies for developing and deploying network-aware Java applications. Marimba was formed in February 1996 by four key members of the original Java development team.

The Java Fund is a sign of growing competition among venture capital firms to attract the best companies. KPCB hopes the Fund will give it an edge in bringing key companies to its investors – "being focused on Java gives us an advantage in that we understand the technology and this is important for investors and the companies we invest in," says Kevin Compton, a general partner at KPCB. "We'll finance other Internet-related companies, but the vast majority are bringing us business plans focusing on Java as a key technology."

Venture capital interest is also being fuelled by the spectacular success of initial public offerings (IPOs) earlier this year, such as Yahoo, CyberCash, Excite and Infoseek. Not to mention the investor frenzy surrounding the IPO last year of Netscape Communications. In most cases, these firms have been taken to market based on a "concept", rather than a track record of earnings and profits – the traditional factors that are usually the basis for an IPO.

In the case of Yahoo, KPCB managed to turn an initial investment of about $1m in Yahoo into an IPO bonanza in the space of about a year. Usually, a start-up company goes through a three to five-year cycle from initial funding, second and tertiary funding then an IPO. With the Internet craze, the cycle has been dramatically shortened.

Investor frenzy has cooled significantly since those Internet IPOs floated earlier this year, but there is still no shortage of money available for a company with a good Internet story.

Some Internet start-up companies which are a favourite of venture capital firms include PointCast, which offers Internet content and a screen-saver type product that brings web pages to users and relies on online advertising. Companies developing software for Internet appliances – turning TVs into Internet access systems, for example – are also attracting a lot of funding. This includes WebTV Networks and Diba: see report on facing page.

Taking a company public is not the only way for investors to turn over fast profits: being acquired by another company can produce similar results. Granite Systems, founded about a year ago by Andreas Bechtolsheim, one of the founders of Sun Microsystems, and which is developing gigabit Ethernet technology that has applications in Intranets, has been a favourite among venture capital firms. The initial investors recently managed to cash out early after Cisco said it would acquire the firm for about $220m.

Ipsilon Networks is another rising star, also founded by a former senior Sun executive, Tom Lyon. Ipsilon is developing a switching technology that combines the ease of the Internet IP protocol with fast ATM (Asynchronous Transfer Mode) communications technology in a unique niche that could be highly profitable as corporations seek to send multimedia data over their intranets.

The Japanese publisher and computer products distributor Softbank, has also been active in California, specifically targeting investments in Internet companies.

The strength of Silicon Valley's fast-growing network equipment companies and the hundreds of Internet-related companies, may one day lead to a name change: Network Valley might become a more apt name for this birthplace of emerging technologies.

■ Advances in software development • By Philip Manchester

Why mainstream businesses are interested in 'object' technology

It sounds like an abstract concept, but object-oriented design will produce better and cheaper software, offering benefits for business-users

Since the beginning of the decade, the computer software industry has buzzed with excitement about the concept of object-oriented design.

But it is no surprise that non-technical folk have gazed on in bewilderment as computer scientists have compared the merits of this or that approach to using the idea. Software is an abstract subject at any level; object-oriented design – which defines the ways that software is made and works – takes the abstraction even further.

Despite its esoteric nature, however, objects are important and they will become even more so. Indeed, by the end of the decade, it is likely that all software will lay claim to being object-oriented and even occasional users of computers will need to understand the concept.

The market research group, Ovum, forecasts a world-wide market for object-oriented software technology and services worth $10bn by the year 2000.

"A few large pioneering companies are already putting objects into practice – particularly in the telecommunications and defence industries," says Mr Pierre Haren, president and chief executive of French software specialist Ilog.

"If you call businesses and organisations such as Boeing, UK Customs, John Deere and Sabre 'mainstream', then objects are mainstream," adds Dr Richard Soley, technical director of the Object Management Group (OMG).

Advocates of object-oriented design claim many advantages over conventional ways of building software. Firstly, it lets developers link software more easily to the 'real' world.

An 'object' can be defined in terms that non-technical people can understand. For example, a customer can be defined as an 'object'. An order, an invoice, a payment – indeed, any business process or data item can be defined and built as a self-contained object.

Secondly, objects promote re-use of software. A 'customer object', for example, will include data on address details, credit rating, outstanding invoice balance, buying policy and contact details. The same object can, of course, be re-cycled through several different applications from order-processing through to market analysis.

FT IT Directions

Business applications for object-oriented software technology


Final assembly line: Boeing is among the larger users of object technology

Most importantly, objects are 'portable' across different computer environments. This means that a software object built for one computer – say, a personal computer – could, in theory, also work on a large mainframe. These qualities should reduce the costs involved in building new software and improve the quality of computer applications.

There is a catch, however. The spread of object-oriented technology depends upon wide acceptance of important 'open' standards – an area which has always caused problems in the software industry.

Since the beginning of the computer software industry in the 1960s, suppliers have used software as a way to control their markets. Open standards undermine this and, as a result, the industry has resisted them. If a customer can move its software easily to another computer environment – one of the main reasons for open standards – then it is less easy to keep them.

The OMG, an industry-backed organisation set up in the late 1980s to promote object technologies, has published a series of software standards in the hope of resolving this conflict. But although it has attracted wide support from industry leaders such as IBM, Sun Microsystems, Hewlett Packard and ICL, it has been fighting a rearguard battle with the most important player in the software industry: Microsoft.

Inspite of being a member of OMG, Microsoft has consistently ploughed its own furrow when it comes to important software standards – using its dominant market position on the desktop to promote its own version of object technology. There is good reason: Microsoft wants to keep its position at the top of the PC market and open object-oriented standards threaten this.

As a result, Microsoft has rolled out a series of software technologies which will help it keep control of the software market. Object Linking and Embedding (OLE) and, more recently, a technology called Active-X, both conflict directly with OMG's standards.

To some extent, Microsoft has been helped by the slow progress in turning the OMG standards into usable products. OMG has, necessarily, needed to gain consensus from its members, and despite a highly pragmatic approach, the process is bound to take longer than a single company acting alone.

"People are tired of waiting. A year ago you had to be OMG compatible to sell object-oriented technology. Now people are happy to take the Microsoft version," says Mr Haren of Ilog.

Other software vendors see the answer in hiding object-oriented technology behind a development framework – thus leaving the option to move to OMG or Microsoft – depending on which one emerges as the dominant 'standard'.

"People want the benefits of objects without the technology poking them in the eye," says Dr Tony Hill, UK managing director of software development specialist, Intersolv.

"There are still problems with all of the underlying technologies. OMG's technology is now available – but there are concerns about its robustness. Microsoft's object technology is still not complete. Our approach is to offer an environment that puts all of this under the covers so we can move easily to whatever works."

Dr Soley of OMG is more sceptical about Microsoft, however. He sees Microsoft's recent move to promote the Active-x technology as a rival to OMG as part of a broader market plan the fight off the threat from the Internet specialist, Netscape.

"The announcement coincided with Netscape's announcement to adopt the OMG object technology for distributing objects across the Internet. Apart from this, there appears to be no new technical argument in favour of Microsoft.

"But, we are pragmatists," he adds. "We have worked successfully with Microsoft in the past to resolve conflicts and I am sure we will in the future."

Apart from the infighting that is a persistent characteristic of the software industry, one thing is clear: object-oriented design is the future of software. Whoever gains on the supply-side will, ultimately, have no impact on the benefits that will come to users of software.

Object-oriented design will produce better, cheaper and more flexible software - no matter who produces it.

New applications for object technology: see pages 16-17

■ Breakthrough for business

A faster route to competitive advantages

The benefits of re-usable software for specific industries will be worth waiting for

New ideas in software technology always take time to filter through to the real world and give genuine benefits. Object-oriented design – a way of packaging software into self-contained components – is no exception, writes Philip Manchester.

Experts have waxed lyrical about the technical advantages since the 1980s. Now the first evidence of real progress is beginning to emerge as many companies are using object-oriented software in proper applications.

"Companies are under pressure to react to business demand, and the existing IT infrastructure cannot keep up. They are turning to the object-oriented approach to speed things up. They have stopped talking about it and started putting in proper business solutions, based on the technology," says Mr Paul Panovka, a software development specialist with Hitachi Europe.

The telecoms industry is among leading pioneer users – but other sectors are catching up fast, particularly financial services – "we have just entered a partnership with the Bank of America to build software objects for the banking sector," he says.

Other software suppliers support this view. In telecoms, companies in the US, UK, Japan and Korea have switched to object-oriented design for their new applications in customer-service and billing. And in the defence industry, companies such as Thomson and Lockheed Martin are using it for command and control systems, says Mr Pierre Haren, president of French software company Ilog.

He also notes some progress in financial trading rooms – although they are not as far advanced. Other areas – such as manufacturing and general commerce – have still to take the step, but the evidence suggests that they will soon.

"Overall, object technology is now mature and it's only a matter of time before the concept is taken up across the board," says Mr Haren. He sees the main breakthrough in the business use of object-oriented software accelerating next year, however.

"The key is the development of re-usable generic objects for specific businesses. So far, most of the talk on objects has concentrated on the underlying technical stuff. What we are interested in is the next level up: we want re-usable objects that relate to the business. Although people have been talking about re-usable software for some time, it is only now that it is starting to happen. I see 1997 as the year of re-use."

He points to the announcement by IBM in August of an initiative to promote the development of business-specific objects as an example of the sort of stimulus needed. The so-called "San Francisco Project" aims to bring software developers together to create a library of industry-specific objects that anyone can use.

"Object-oriented software has been touted as the best way to build re-usable software, but the cost of writing it cannot be carried by a single project so it has not happened. The fact that IBM is getting into this model is very important and will

Continued on page 16

nsurer's award-winning solution

ontinued from page 11

zes. Even so, the modern C++ nguage was used where appropriate typically to handle complex risk lculations.

However, the biggest success factor as the involvement of business ople. About 40 end-users – 10 per nt of the customer services staff were seconded to the project ll-time. This created "a lot of essure and pain", as Mr Sheridan uts it: the business had to continue. hich meant heavy use of temporary aff. But the move paid good vidends.

These end-users were fully involved designing and testing the systems, pecially the display screens and line facilities. They wrote the associated manual procedures, and produced and ran user training. This total immersion meant they became 'evangelists' among their colleagues as systems went live – "their integration was such that new contractors couldn't tell the difference between them and the IT staff," Mr Sheridan says.

This integration continues: "The business manager sits 10 feet from me and we still have 16 users working here as the project nears its end. People are keen to do tours of duty in IT, as it is seen as a good training ground. This will probably continue, with end-users spending six to 12 months in IT."

The project budget was initially £55m, over five years. New regulations and an expansion of the project scope later took this to £62m, and the final cost was £67m. The extra £5m is put down to time and cost overruns which are common in IT projects. Mr Sheridan says: "If we'd been told in 1990 that there might be an overrun of 8-9 per cent, we would have gone ahead anyway."

The first new systems went live in August 1995. There has already been significant return on investment. The staff has been cut by 20 per cent, and by even more in IT: from 160 to 100. New products are brought to market in days rather than months. And sales are growing from month to month.

"The business side can now look at a new product and say: 'Will it succeed as a product?'," Mr Sheridan says. "Before, one of the questions was always: 'Can we do this in the first place?' IT is no longer on the critical path."

1-2 KISS

The Business Centre, Edward Street, Redditch, Worcs., B97 6HR
Tel: 01527 585 280 Fax: 01527 585 930

Company
KISS is a specialist business consultancy offering business and system engineering solutions based on the next generation OO method - the KISS-METHOD®. This award winning approach exploits the native business language to deliver systems which are flexible, durable and economical to operate and maintain.

Solutions
We offer custom solutions which achieve one or more of the following:
- user-orientated specification of reusable business objects
- cost-effective adoption and application of the KISS-METHOD®
- instituting flexible organisation & workflow
- transition from legacy to open systems
- implementation of business specifications
- sustainable quality improvement in project development and control processes.

KISS

3-4 Parallax Group Plc

Stonecourt, Siskin Drive, Coventry. Warwickshire, CV3 4FJ
Tel: +44 (0) 1203 514 400

PARALLAX GROUP

Parallax is an award winning, innovative developer of leading edge business systems. Since 1989, we have been meeting the needs of blue-chip clients, designing and implementing business systems that deliver impressive results and manifestly enhance customer service.

Parallax specialises in Internet-based supply chain integration systems and related technologies. We have developed such systems for world wide web (WWW) applications with supermarket, off-licence and specialist luxury goods retailers. Using more conventional technology, we have also developed point-of-sale (PoS) and financial service systems for the automotive industry.

Our services include: IT consultancy and business analysis; Supply chain systems integration; Applications development; Java and Wed retail solutions; Object-oriented (OO) development; Complete systems implementation; Full maintenance and support.

To discuss further details about out Web and Internet retailing products and services, please contact Julie Gibson on +44 (0) 1203 514 400

Hardware/Compatibility: PC; LAN/WAN; Windows NT, 95, 3.X; X/Open Windows Motif; SunOS; Solaris; AIX; HP-UX; VMS; Mac; AS/400; relational and object databases; CORBA; Internet/Intranet

Geographical Coverage: UK and Continental Europe

Applications: Retailing, Financial Services, Manufacturing, Distribution, Supply Chain Integration, Client Server, Java, Distributed Object Computing, GUI's, Multi-media.

5

surf CONTROL

Internet access control, security & management software for corporates.

Call +44 (0)1260 296250 Now

www.surfcontrol.com

6 Nat Systems

4, Thameside Centre, Kew Bridge Road, Brentford, Middlesex. TW8 0HF
Tel: 0181 232 9810

Nat Systems

Company: For over a decade, Nat Systems has been successfully designing, marketing and supporting adaptable and integrated software solutions for building, delivering and managing enterprise class client / server applications.
NatStar from Nat Systems enables the most evolutionary approach to "OO" development, allowing the developer to utilise both entity relationship and "OO" paradigms in a full client / server development environment.
NatStar's Graphical Builder, Process Modeller and Information Modeller combine with comprehensive prototyping and repository facilities to provide a solution which is already used by thousands of developers worldwide to build and deliver mission critical applications.
For more information and an evaluation video call Graeme Rowe.

Geographical Coverage: 450 worldwide installations

7

EURODATA

BUILDING CORPORATE PARTNERSHIPS

- Hardware and software configuration to any requirement.
- Software support on Novell and Microsoft products.
- Upgrade consultation and on-site installation for hard drives, CPU's and memory.
- Cabling and networking solutions.
- Short and long term rental on supported PC's, Printers & Peripherals.
- In-house city based repair facility for all supported PC and printer requirements.

Tel: +44 (0) 171 608 3120
Fax: +44 (0) 171 608 3091

8-16

The Smart Village®

card-based infrastructure for public and private communities of all sizes

Convenience as Competitive Advantage

A modular set of smart card-based solutions for public and private markets, The Smart Village® leverages convenient transactions as competitive advantage for businesses and communities of every kind. The Smart Village® features smart cards, terminals, development tools and support for major clients, operators and developers in Europe, North America, Asia and the rest of the world. As smart cards move further into community-infrastructure markets—Telecoms, Banking, Retail, Mass Transit & Parking, Healthcare, Networks—your products and services will become more accessible to an ever-expanding customer base.

Security that Ensures Even Greater Freedom

The privacy promised to users and the security assured to operators by new-generation smart cards has already contributed to exploding markets on every continent. Smart cards are projected to do away with almost half of all cash or paper transactions by 2001, streamlining the basic infrastructure of public and private communities. Such security is bringing new applications, and clients, to fields as diverse as internet shopping and health care forms processing.

The card-mounted microprocessor offers safe transactions to issuing institutions, card holders, merchants, government agencies and developers. Smart cards for closed communities like municipalities and corporate campuses are already creating "cashless societies". Cards as a medium of payment, personal identification or secure access are not new, but the smart card continues to revolutionize the industry through the convergence of varied technologies and strategic business alliances.

Schlumberger Electronic Transactions

Schlumberger is active in almost 100 countries worldwide and employs 50,000 people of more than 90 nationalities. We are uniquely positioned to tailor global smart card-based solutions to local settings. Schlumberger offers both the assets and the expertise necessary to excel in highly competitive markets.

The Electronic Transactions group of Schlumberger is the industry's only card supplier with a complete range of products, systems and services in all areas of community infrastructure. Electronic purse schemes, card dispensers, terminals, payphones, mobile phone subscription and security, network access, automated ticketing, automated vending, retail petroleum dispensing, health care management—these are many of the key solutions integrated into The Smart Village®.

- Smart Cards
- Telecoms
- Banking & Retail
- Retail Petroleum Systems
- Mass Transit
- Parking Systems
- Health Management Systems

Schlumberger Electronic Transactions

Schlumberger Electronic Transactions - 50, avenue Jean Jaurès - BP 620-12 - 92542 Montrouge Cedex - FRANCE
Tél.: +33 1 47 46 66 67 - Fax : +33 1 47 46 63 67 - http : // w w w . slb . com / et

17-20 Unisys Corporation

Bakers Court, Uxbridge
Middlesex, UB8 1RG
Tel: 01895 237137
Fax: 01895 862093

Company Description
Unisys is best known for its technology but now offers a full range of support services. These include: Business Consultancy; Information Planning; Systems Integration and Technology Consulting; Outsourcing and Facilities Management; Implementation services such as distributed systems deployment and networking design and implementation.

Product:

OSMOS	High Performance Object Relational Database SQL3 access for desktop tools 7X24 Operations Web Development Integration with Platinum Technology Paradigm Plus and ParcPlace-DigitalkVisual Wave Available on Windows NT and a variety of UNIX platforms
UREP	Extensible Object Oriented Repository Enterprise modelling - Business Processes, People, and Systems Open Tool Integration - 40 different tools Year 2000 Available on NT and UNIX
LINC	High Performance Development Environment for Business Objects Over 3500 users worldwide including 100 users in UK Available on a variety of UNIX platforms and in the near future Windows NT
Navigator	*Complete Class library and development environment for Retail Financial Services.*

Hardware/compatibility: The primary platforms for the Unisys Object Technology are Windows NT and UNIX plus Unisys Clearpath Heterogeneous Multi Processor (HMP) Servers that provide scaleable NT services through high performance integration with the Unisys Enterprise server technology.

Geographical Coverage: Unisys operates in most countries around the world through subsidiaries and distributors. The UK subsidiary has offices in London, Bristol, Birmingham, Stockport, Leeds, Glasgow and Belfast. In addition Ireland is managed through our Dublin office.

Applications:
Geographical Information Systems
Electronic Commerce using Internet and Intranet
Retail Banking: Customer Information Systems; Mortgage and Investment Management; Branch Automation; Treasury Management; Wholesale Banking
Insurance: Life and pensions

21-22 SELECT Software Tools Ltd

Westmoreland House, 80-86 Bath Road
Cheltenham, Gloucestershire, GL53 7TJ
Tel: 01242 229700
Fax: 01242 229701

SELECT Software Tools is one of the world's premier vendors of object-oriented analysis and design tools for multi-tier client/server development. Founded in 1988, SELECT now has over 25,000 installations worldwide and major offices in the U.K, US and continental Europe, as well as regional distributors worldwide. In 1994, SELECT introduced *The SELECT Perspective*, an approach to client/server development which incorporates the philosophy of controlled RAD, multi-tier architectural support and OO techniques along with support for industry standard methods such as Rumbaugh, Jacobson, and the Unified Modelling Language.

In 1995 SELECT introduced SELECT Enterprises™, a dedicated modelling toolset for building scaleable client/server applications. SELECT Enterprises provides integrated code generation and round-trip engineering for C++, Visual Basic v. 4.0, Forté, PowerBuilder, *Delphi, Centura, NatStar and Smalltalk.*

Hardware/Software compatibility
SELECT Software Tools suite of products run on IBM compatible PCs supporting Windows 3.x, 95 or NT.

SELECT SOFTWARE TOOLS

23 TakeFive Software GmbH

SNiFF+
the industrial strength programming environment for UNIX and Windows NT
SNiFF+ is the only team oriented software development *environment for large OO-projects, that lets developers mix* and match HW-platforms, development tools and programming languages. SNiFF+ combines high performance and scalability with an intuitive, easy-to-learn GUI.

SNiFF+ is used by more than 5000 developers in major finance-, telecom- and computer-companies.

For further information and a free evaluation contact:
TakeFive Software GmbH
Jakob-Haringer-Strasse 8
A5020 Salzburg / Austria
Tel: +43 662 457915-0
Fax: +43 662 457915-6
e-Mail: info@takefive.co.at
Web: http://www.takefive.co.at.

TAKEFIVE SOFTWARE

24 AI International

Castle Chambers, High Street,
Berkhamstead, HP4 2DF
Tel: 01442 873 873
Fax: 01442 860 200

Company
AI International is one of the UK's leading providers of object oriented technologies. For 13 years we have helped many "Times 100" companies successfully integrate high technology into their business.

Geographical Coverage
United Kingdom

25 INTERSOLV PLC

Abbey View, Everard Close,
St. Albans, Hearts, AL1 2PS.
Tel: 01727 812 812
Fax: 01727 869 804

The INTERSOLV Allegris Series combines the scalability and application partitioning capabilities of high-end tools with the ease of use of low end GUI 4GLs. It also provides portability in development and deployment openesss database independance, a truely object-oriented architecture and free run-time licensing. Allegris allows you to deliver powerful, portable, N-tier applications in a controlled and extremely productive environment.

Hardware/Compatibility
Windows/NT/'95, Unix

Geographical Coverage
Worldwide

26

MORGAN CHAMBERS

OUTSOURCING OPTIONS
SUPPLIER IDENTIFICATION
RFP/ITT
NEGOTIATION
METERICS SLA SETTING
TRANSITION AUDITS...

Morgan Chambers plc. Nautilus House
8-10 Brushfield Street, London E1 6AN
Tel: +44 (0)171 377 6000 Fax: 426 0060

Europes foremost Sourcing Advisors

27 Polyhedra PLC

Queensway House, Queensway, Bletchley,
Milton Keynes, Bucks, MK2 2ED
Tel: (+44) (0) 1908 366 844 Fax: 366 824
Internet: sales@polyhedra.com
Web address: http://www.polyhedra.com

Product Description
Polyhedra is a memory resident high speed "active" Object-Relational DBMS suitable for developing Real-Time applications spanning Embedded to large scale multi-user client/server distributed systems. It interfaces to both "high speed" devices and other RDBMS's. Features include fault tolerance and high speed historical data logging/recall.

Platforms: Most UNIX variants, Windows NT & 95 and embedded RTOS's (VxWorks, pSOS+ etc.)

Applications:
Real-Time & Embedded Systems, Telecomms and Finance.

POLYHEDRA

28 Advanced Visual Systems Ltd

Montrose House, Chertsey Boulevard,
Hanworth Lane, Chertsey, Surrey, KT16 9JX
Tel: 01932 566608 Fax: 01932 568842
sales@avsuk.com http://www.avs.com

Company
Advanted Visual Systems Ltd are leaders in the development of object oriented visual programming *development tools. Providing researchers and technical* professionals the opportunity to build data interactive graphics applications.

Hardware / Compatibility
All major UNIX workstations W95, NT and Supercomputers

Geographical Coverage
UK, USA, France, Italy, Germany, Denmark

Applications
Data Mining,
Info Visualisation

ADVANCED VISUAL SYSTEMS Ltd

29-30 DORSET SOFTWARE SERVICES LIMITED

94 High Street,
Poole, Dorset BH15 1DB
Tel: 01202 660886
Fax: 01202 660904

Dorset Software specialise in MS Windows based development and client-server database systems, providing comprehensive consultancy at all levels. Our expertise ranges from the provision of an individual software engineer as part of a client's team, through to a full solution. We operate a *unique two-phase Rapid Application Development* approach based on iterative prototyping. This client-friendly process results in an application that meets your exact requirements.

Software:
Server: NetWare, Windows NT
Client: Windows 3.x, NT & 95, DOS
Database: SQLBase, SQLServer, Sybase, Oracle, Paradox, Interbase, Access

Languages:
VisualBasic, Delphi, C, C++, Access Basic, FoxPro, SQLWindows

31 BRITANNIC TELECOM CO. LTD

Genesis House, Merrow Lane,
Guildford, Surrey GU4 7BN
Tel: 01483 242555
Fax: 01483 242536

In the last 12 years, BTC has established itself as a leader in the provision and integration of voice and data telecommunications applications. Selecting a new system or upgrading an existing one is a major strategic decision for your business. We believe that our depth of experience and our ability to offer total solutions, together with our commitment to customer care, enable us to help you 'GET IT RIGHT'

Geographical coverage
UK: 2000+ sites

Applications
ISDN Solutions, CTI, ACD, Video-Conferencing, Networking, Voice Management

BRITANNIC TELECOM COMPANY

FT-IT DIRECTORY INDEX

For further details regarding the FT-IT DIRECTORY please call Caspar Ingham on Tel: +44 (0) 171 573 6000

FT-IT DIRECTORY • FT-IT DIRECTORY • FT-IT DIRECTORY •

1-2 SANDERSON

Tel: 0114 282 7777
Fax: 0114 282 1340
E-Mail: SeanH@Sanderson-cbt.co.uk

For Premier Computer Solutions

Sanderson is the UK's premier open systems supplier of computer solutions and related technology and networking services with 15 offices in the United Kingdom and operations in Australia, USA, New Zealand and East Asia. Sanderson has developed and owns an extensive portfolio of software packages for a wide range of industries and applications including:

Manufacturing	Local Government	Logistics and Distribution
Processing Industry	Schools & Colleges	Hotels
Direct Marketing & Mail Order	Fleet Management	Solicitors
Finance and Distribution	Airports	Production Monitoring
Printing Industry	Financial Management	Insurance
Media Industry	Healthcare	Police & Security
Credit Management & Collections	Multimedia & CBT Training	Document Image Processing

Geographical Coverage: International

SANDERSON COMPUTERS

3 Enterprise

'Enterprise' is the first true 32-bit Client Server accounting system for Win95/NT, which also has an optional DOS interface, both of which have full multi-currency, open period, powerful drill-down and drill-across features.

Contact: Exchequer Software Ltd
Tel: 01202 298008 Fax: 01202 298001

4 Scala International Ltd

Scala House, 23-24 Bourne Court,
Woodford Green, Essex IG8 8HD
Tel: 0181 5501994
Fax: 0181 5517429

Scala International develops and markets scala 4.1, which will be previewed at softworld in accounting and MEIS in October. Scala 4.1 is a fully multi-lingual, multi-currency business management and accounting software for local and global operations. Supported from 55 offices worldwide, in over 30 different languages. Scala 4.1 is extremely flexible offering specific parameterisation and powering non-dimensional capabilities.

Hardare/Compatibility
IBM Compatible PCs, Networks, all unix systems, client server
Geographical Coverage
Worldwide; 14000 installations in over 90 countries
Applications
Scala financials, logistics, business and manufacturing systems, available in DOS, windows, unix and client server
Cost
On application

Scala INTERNATIONAL

5 KAI Computer Services Ltd

6 Kings Exchange, Tileyard Road,
London N7 9AH
Tel: 0171 609 3746. Fax: 0171 609 3742

OCTOPUS ACTIVITY AND CONTACT MANAGEMENT

"The left hand doesn't know what the right hand is doing"

When you need to know the status of a client or project quickly Octopus provides the details with a click. All activities, from telephone calls to word documents, are automatically attached to the contact record, increasing internal communication. The total business history puts you in control, improving client relationships.

Improve office productivity and communication, monitor activities and progress

OCTOPUS

6 Softworld in Accounting & MEIS

1-2 October 1996,
NEC, Birmingham
Tel: 0181 541 4865 Fax: 0181 974 5188
Email: softworld@softinfo.com

Softworld in Accounting & Management/Executive Systems is the definitive event for senior financial and business executives looking for accounting and reporting software. Organised in association with The Financial Times and supported by the Institute of Chartered Accountants and BASDA, the event *comprises a comprehensive programme of product* demonstrations, special seminars on related topics and a highly focused exhibition, together with the industry's leading Directory of accounting applications.

softworld

7 Softworld in Sales & Marketing

13-14 November 1996,
Wembley Exhibition Centre, London
Tel: 0181 541 4865 Fax: 0181 974 5188
Email: softworld@softinfo.com

Softworld in Sales & Marketing is the UK's leading showcase of sales management software specialist marketing applications and integrated sales and marketing systems. A comprehensive programme of free product demonstrations is complemented by special seminars on related topics. A highly focused exhibition allows delegates to view and compare a wide range of leading packages in a single, time effective visit. All delegates also receive a complimentary copy of the latest Softworld Report and Directory - a comprehensive buyer's guide to sales and marketing software containing exclusive research, expert advice, real-life case studies and detailed product information.

softworld

10 J D Edwards (UK) Ltd

Oxford Road, Stokenchurch, High Wycombe
Buckinghamshire HP14 3AD
Tel: 01494 682700
Fax: 01494 682699

J D Edwards & Company is the industry leader in supplying application software and solutions for the IBM AS/400 market. Developed using CASE tools, *J D Edwards is currently developing a new* generation of software products, which will operate *on a variety of platforms.*
J D Edwards' fully integrated solution is for cross-industry and industry specific applications including general business, financial, manufacturing, distribution/logistics and energy and chemicals.
A global solutions provider, J D Edwards has more than 3,800 customers in 91 countries with multi-*national functionality including multi-currency and* language capabilities.

JDEdwards

11 Davies and Tate PLC

4 & 5 The Pentex Centre, Bellbrook Park,
Uckfield, East Sussex TN22 1PH
Tel: 01825 769133
Fax: 01825 769134

Administration, management and accountancy software for installation and service companies. Tracking information flow from point of contact through the supply or contract process to debtor and after sales service management with over 100 automatic reports.

Geographical coverage
Throughout the U.K.

Applications
Service installer computer software.

Davies &Tate

12 Lincoln Software Limited

Marlborough Court, Pickford Sreet,
Macclesfield, Cheshire SK11 6JD
Tel: 01625 616722 Fax: 01625 616780
Email: info@ipsys.co.uk
Web: http://www.ipsys.com

Lincoln Software produce a range of Meta-CASE and CASE tools for large scale three-tier client/server application development. Our Object IE product is an object oriented, full life cycle tool which includes full C++ Code Generation and Database Generation for Oracle, Sybase and Informix. Our tools bridge the gap between business requirements and IT.

Hardware/Compatibility
Open VMS/Solaris/Sun OS/HPUX/AIX/Microsoft Windows

Geographical Coverage: Worldwide

Applications
IPSYS Toolbuilder, Object IE, HOOD, SSADM

8 Softworld for the Supply Chain

12-13 March 1997,
Hall 11, NEC, Birmingham
Tel: 0181 541 4865 Fax: 0181 974 5188
Email: softworld@softinfo.com

A comprehensive showcase of specialist software for logistics, transport, distribution, warehousing, *manufacturing management and financials* - the total supply chain process. Softworld for the Supply Chain provides a unique combination of free product demonstrations, special seminars on related topics and a highly focused exhibition of leading suppliers. All delegates receive a complimentary copy of the Softworld Report and Directory when they attend, providing valuable research and reference information on this complex area.
Only at Softworld can you see, compare and evaluate the full range of supply chain solutions in a single productive day.

softworld

9 SoftDev & WebDev

27-28 November 1996, Olympia 2,
Kensington, London

SoftDev & WebDev are two highly informative events covering the key stages in the product development life cycle. SoftDev encompasses the range of products and services required for the development of corporate systems and applications. WebDev focuses on the emerging software products and development tools for corporate intranets, the internet and the World Wide Web. Both events include an extensive programme of features including **The Financial Times, Indian Software Development Pavilion, the annual DSDM European Exhibition and Conference, The Intranet '96 Conference** and the Third Annual Developers Challenge.
To pre-register for both events free of charge, contact Interactive Exhibitions Ltd.
Email: softworld@softinfo.com
Tel: 0181 541 4865
Fax: 0181 974 5188

softworld

13 Plato Computer Services (UK) Ltd

The Hertfordshire Business Centre
Alexander Road, London Colney,
Herts AL2 1JG
Tel: 01727 822639 Fax: 01727 825688

The Year 2000 is a problem for your business critical computer systems. In the USA external auditors are already commenting on companies' annual audited accounts stating that "there is an unquantified liability relating to changes that must be made to computer systems prior to the Year 2000". The Year 2000 problem is REAL, and it will not go away. We are one of the very few companies who have practical experience of the issues. Call us now for further information on how Plato can assist in this critical situation.

Geographical Coverage:
UK & Europe

PLATO
PLATO COMPUTER SERVICES (UK) LIMITED

14 3Com

3Com UK Ltd, Pacific House, Third Avenue
Globe Park, Marlow SL7 1YL
Tel: 01628 897 000
Fax: 01628 897 003

3Com Corporation has helped over 25 million people gain access to critical information through *high speed networks*. At the heart of the company's vision is global computer networking, linking large businesses, small offices and homes through its industry-leading Asynchronous Transfer Mode (ATM) and switching products. 3Com's customers include Scottish Power, which has just installed the largest ATM network in the UK, Microsoft and educational institutions including Oxford and Dublin Universities.

Geographical Coverage:
Worldwide
Applications:
All sectors

3Com
Networks That Go the Distance

15 PERWILL • EDI

Company Description
PERWILL • EDI, an award winning Electronic Commerce Solution installed in over 60 countries on 6 Continents, is available from its authors in the UK.

For full details of the Perwill range of products, (that *run on over thirty different* Operating Systems), training and Consultancy services please contact:

Perwill, 13a Market Square, Alton,
Hampshire GU34 1HR, United Kingdom
Tel: +44(0) 1420 545000
Fax: +44(0) 1420 545001

PERWILL

16 International Business Systems

1 Imperial Place, Elstree Way
Borehamwood, Herts WD6 1JN
Tel: 0181 2075655 Fax: 0181 2076770

Company Description:
IBS is a wholly owned subsidiary of IBS AB, a Swedish public company and one of the leading software suppliers with over 3000 customers worldwide. The ASW Portfolio is a full range of application software with a GUI interface providing innovative solutions to today's business needs; including Pan European requirements and EuroVAT acting in a true Multi currency environment.
Hardware: AS/400 Client Server, Windows and OS/2 GUI support.
Coverage: 65 Offices in over 30 countries worldwide. See us at the Softworld Exhibition on Stand No. 518
Applications: Financials, Distribution, Inventory, Asset, Service, Production, Manufacturing, Project, Warehouse Management, EIS and FMCG.

IBS

17 JBA

Needles House, Birmingham Road, Studley,
Warwickshire, B80 7AS
Tel: +44 (0) 1527 498 444
Fax:+ 44 (0) 1527 496 230

JBA System 21 Customer Service & Logistics provides an effective balance between the two conflicting desires of any customer service manager - precise control and flexibility. Developed to support a supply chain philosophy, the comprehensive range of facilities for recording and processing customer demand provides the key activities which are essential for effective, efficient customer service. System 21 Logistic applications are designed to help organisations to achieve the highest levels of customer service, whilst simultaneously minimising operating costs.

Hardware: Multi platform
Geographical Coverage
Worldwide
Application Sectors: All Sectors

JBA

18 Software 2000 (UK) LTD

Crosby House, Meadowbank, Furlong Road,
Bourne End, Bucks SL8 5AJ
Tel: 01628 850850 Fax: 01628 850243

Software 2000 offers a comprehensive suite of financial management, human resources and materials management software designed *exclusively for the IBM AS/400 and related* technologies, using client/server and object oriented technologies to provide easy-to-use icon and graphical screens and integration with popular windows spreadsheets and word processing packages and takes into account all the requirements of the national corporation. Software 2000 has over 1300 clients worldwide.
Hardware: IBM AS/400, Server, Client/Server - OS/2, Windows NT & 95
Geographical Coverage: UK, Mainland Europe, USA, Australia, Asia, Sth Africa
Applications: Totally integrated financial management, human resources & materials management
Cost: Entry level price £25,000

19 Geac Computers Limited

Hollywood Tower, Hollywood Lane, Cribbs
Causeway, Bristol BS10 7TW
Tel: 0117 9509003
Fax: 0117 9590718

- Integrated client/server Reconciliation and Investigations System for Cash, Securities and FX Confirmations
- 24 hours on-line availability • Workflow
- Supports agency and/or propriety data formats
- Automatically recognises match exceptions
- Creates investigations cases
- Reconciles holdings or transactions
- Comprehensive MIS

Hardware: UNIX or NT, HP, IBM RS6000, SUN, Sybase, Oracle, Ingres
Geographical Coverage
UK, Europe, Far East, Australia, North America
Applications: Geac WINNAR
Cost: Priced on a per concurrent user basis

20 Excalibur Technologies Int. Ltd

The Courtyard, New Lodge, Drift Road
Windsor, SL4 4RD
Tel: 01344 893444 Fax: 01344 893666
www.excalib.com email: info@excalib.com

Excalibur has developed RetrievalWare, a suite of software solutions allowing users to search and retrieve information whatever its origins - databases (such as Oracle), Lotus Notes, electronic or paper formats - and wherever it is stored. With the explosion in intranets, the ability to manage information, both text and graphical, is critical.
Hardware
Client Server based software running on Unix and NT with PC and Mac clients
Coverage. Worldwide
Applications: *Search and retrieval technology for intranets - covering paper and all electronic data.*

EXCALIBUR TECHNOLOGIES

21 National Computing Centre

Oxford House, Oxford Road, Manchester
M1 7ED
Tel: 0161 242 2200 Fax: 0161 242 2400
Internet: http://www.ncc.co.uk

Company: In the Uk, NCC is the leading IT membership organisation and provides world class consultancy and training services to both member and non member organisations. We are not linked to any supplier so our advice is always independent and impartial. NCC offer a broad portfolio of services which address Year 2000 problems, including management briefings, training, *audits and a Year 2000 Solutions Group.*

Geographical Coverage
World

NCC National Computing Centre

22 Marcam Solutions Limited

Seton House, Warwick Technology Park,
Gallows Hill, Warwick CV34 6DD
Tel: 01926 409999
Fax: 01926 409888

Marcam Solutions is the leading provider of open enterprise applications and services for process organisations worldwide. We have the largest installed base of any software company in this business, with over 15,000 customers in the manufacturing sector.

Our intimate market knowledge has been gained through years of experience in successfully addressing the manufacturing management needs of industry leaders. As a result, our enterprise application software specifically meets the critical supply-chain strategies of food and beverage, chemical, pharmaceutical, packaging and consumer goods *industries. It has delivered concrete business benefits to* such companies in terms of functionality, productivity and return on investment.

Marcam's continued commitment to research and development in Object Oriented Technology now offers companies the opportunity to leverage existing skills and tools; and the development of a truly open Marcam product *environment enables integration of in-house, third party or* desk-top applications.

For further information visit Marcam's home page on the World-Wide Web at URLhttp://www.marcam.com, or call us today.

23 Microtest Europe

2A Kingfisher House, Northwood Park
Gatwick Road, Crawley, RH10 2XN
Tel: 01293 894000 Fax: 01293 894008
WEB: http://www.microtest.com

Microtest Inc. is a worldwide manufacturer of cable testing (PentaScanner+) network diagnostic (COMPAS) and CD-ROM sharing products. High performance CD-ROM sharing is achieved with Microtest's DiscPort mini server, network ready towers and CD-NOW! server technology. These products enable users to simultaneously access *networked CD-Changers and Jukeboxes.* Support is provided for multiple client platforms and WINDOWS NT and NetWare *operating systems.*
Geographical Coverage:
Worldwide

MICROTEST®

24 Thomas & Betts Ltd

Foster Avenue, Woodside Park,
Dunstable, LU5 5TA
Tel: 44 (0) 1582 677080
Fax: 44 (0) 1582 608816

In today's fast moving networking environment, with ever increasing data speeds and new EMC legislation, your structured wiring system must meet the exacting demands placed upon it.
Thomas & Betts' comprehensive range of *connectivity products is designed to meet with your* needs of today and those of the *unforeseeable* future.
All you need to know about structured wiring is in our new catalogue. For your free copy, please call us.
Geographical coverage: Worldwide

Thomas&Betts

25 ForgeTrack Ltd

Primavera Dealer,
27 Old Cross, Hertford, SG14 1RE
Tel: 01992 500 900
Fax: 01992 589 495

Company: Primavera's integrated Concentric Project Management system consists of Primavera Project Planner for large, complex projects; SureTrak for smaller less complex projects; Monte Carlo for Risk Management; Parade for performance measurement and Expedition for contract control. Training consultancy and implementation services are also available.
Hardware: PC-compatibles 486 or Pentium
Geographical Coverage: Primavera products are available worldwide. ForgeTrack are UK dealers.
Applications: Engineering, construction, IT, oil/gas, etc.
Cost: P3 - £2,500; ST - £259; MC - £695; PAR - £2,000; EXP - £1,600; LAN - P.O.A

PRIMAVERA

26-27 Innovative Object Database Supercomputer for Demanding Business Solutions

Data mining, Electronic commerce, Web services

POWERED BY

The ITASCA Formula 2XA object supercomputer is a scalable, fast, smart enterprise integration server, running 7 parallel processors.

The ITASCA Workstation adds ITASCA's rapid *prototyping and flexible modelling to high-end* power graphics on Silicon Graphics® workstations for seamless management of multi-media data sets.

IBEX products are based on its ITASCA™ Distributed Object-Oriented Database Management System (OODBMS).

For integrating data, people and knowledge, contact:

IBEX Corporation
Luxembourg, with operations in France, USA and UK

IBEX OBJECT SYSTEMS UK
31 Stourcliffe Avenue, *Bournemouth BH6 3PU*
Tel: +44 1202.432-752; Fax: +44 1202.430-363
Web: http://www.ibex.ch

28-29 THE BLOOMSBURY SOFTWARE CO. LTD

IBM BESTeam
Premier Software Member

"We've made IBM's VisualAge for Smalltalk our tool of choice, and are excited about the directions IBM is taking to move objects to the enterprise." - Credit Suisse

What could VisualAge do for you?

http://www.bloomsbury.co.uk/software 0171 436 9481

30 NSB Retail Systems Limited

Norden House, Basing View
Basingstoke, Hampshire RG21 2HG
Tel: 01256 333711
Fax: 01256 333707

NSB Retail Systems, one of the U.K's leading *providers of solutions for retailers, is launching a* client-server version of its leading Retail Express merchandising software. With a new graphical user interface and the ability to handle dates after 1999, this release of Retail Express is more intuitive, easy *to use and includes a new executive information* module.

Hardware/compatibility
IBM AS/400

GeographicalCoverage
European

NSB retail systems

31 Object Management Group (OMG)

ELM, 2 Bell Road, Hounslow, TW3 3NN
Tel: 0181 570 2182 Fax: 0181 572 3163
Email: 100010,3012
http://www.omg.omg

Company: OMG is an international organisation founded to promote the theory and practiceof object technology. The group is composed *of over 670 information systems* vendors, software developers and end users united in the spirit of cooperation for the advancement of this critical software *technology* for the nineties. The corporation is non-profit and works closely with its members, standards organisations and related *industry groups to develop specifications* for a heterogeneous applications environment using distributed object technology and component-*based software.*

OMG
OBJECT MANAGEMENT GROUP

32 Rational Software Corporation

Olivier House, 18 Marine Parade, Brighton,
East Sussex, BN2 1TL
Tel: 01273 624 814
Fax: 01273 624 364

Company
Rational's products support object modelling of systems and businesses, the definition of software architecture, coding, testing, debugging, process and task *management and the documentation* of software-development efforts. Rational's products put users in control of project schedules, risks and *costs to increase* their productivity and give them a competitiove edge.

Hardware/Compatability
Products run on UNIX and PC platforms

Geographical Coverage
UK, Eire, South Africa

RATIONAL
SOFTWARE CORPORATION

33 BAeHAL Software Ltd

Farnborough Aerospace Centre
PO Box 87, Farnborough, Hants GU14 6YU
Tel: 01252 382020
Fax: 01252 382380

Company Description
Superb communications unite the proven software skills of the Indian sub-continent with the project management expertise of British Aerospace to enable BAeHAL, an ISO 9001 software services provider, to deliver high quality, cost effective solutions to British industry.

Hardware
Client Server, Mainframe and PCs.

Geographical Coverage
Europe, US and Pacific Rim.

Cost
Up to 50% less than UK rates.

34 REICH TECHNOLOGIES

The **Intelligent Software Factory™** offers an integrated tool suite that supports Use Cases, CRC cards, OMT, UML, and automated Smalltalk, Java, C++ and IDL code generation. The **Intelligent Artifact Repository™** stores analysis, design and code artifacts, and keeps models and code synchronised.

ISF is unique in its complete approach to supporting a software development project by addressing the entire lifecycle, from requirements engineering through implementation, test and maintenance.

With ISF from Reich Technologies you leverage the most *expensive* phase of the life cycle, Maintenance, with the earlier phases of Analysis and Design.
The repository becomes an enterprise-wide resource for the management and reuse of Information Systems assets.

Platform availability: MS-Windows, NT, OS/2, UNIX, Macintosh

INTELLIGENT SOFTWARE FACTORY ™
INTELLIGENT ARTIFACT REPOSITORY™

Tools and services by Reich Technologies
info: 101473 1573@compuserve.com
http://www.projexion.com

Reich Technologies

35 Quantum Business Systems Ltd

4 Spitfire Road, Holly Park,
Birmingham, B24 9PB
Tel: +44 (0)121 3509100
Fax: +44 (0)121 3509909

QUANTUM BUSINESS SYSTEMS

Systems
Upgrades
Trade-ins
Hardware Asset Recovery
Eco-Friendly disposal
Rentals
Flexible Leasing
Internet Servers
Internet Presence
Website Construction

SUPPLIERS OF IBM COMPAQ DIGITAL

■ Computer staff issues

A re-think needed on training

Applying object technology demands new skills, writes John Kavanagh

Managers preparing their computer staff for object-oriented systems need to rethink their approach to IT training, according to users and suppliers which have learned the lesson through experience.

"People go on a Visual Basic programming course and think they're 'OO' experts," says Mr Harley Davis, technology director at object-oriented software specialist Ilog.

"Their managers don't help: IT managers can be very strong on long-term vision but weaker on short-term needs. There's a lot of interest being generated in object technology as people read articles about it, and they think it's easy.

"In fact, the programming language training is simple: the hard part is conceiving a business problem in an 'object way' in the first place."

Mr Nick Cains, technical director at Concise Software, agrees: "Object technology is all about design principles, not programming principles. The line between the designer and the programmer, and to some extent the analyst, disappears, because the end-user's system is built up as much as possible from common objects or blocks of code already stored in an object library."

Traditional programmers can find this idea difficult, he says. "There are people who simply cannot grasp the concept of object technology or why it's used," he says. "Even many Cobol programmers who have used sub-routine libraries can't grasp how objects can be built into their systems automatically."

These views are borne out by a survey by consultancy McGregor Boyall, which found that well over 70 per cent of financial organisations – among the biggest users of object-oriented systems – had problems finding suitable business analysts, analyst/programmers and team leaders.

As one respondent put it, "The problem is that OO development demands a different calibre of analyst/programmer: one who thinks further and wider than the program specification."

Mr John Higgins has personally dealt with such issues in training and recruitment as development director at business software company SSA. The company is now switching to object technology for most development.

"You have to start with the basic recognition that there are issues here and that it's not just question of putting people through a training sausage machine," he says.

Mr Higgins believes that IT managers should first clarify their own thinking, typically by going to some of the growing number of conferences on object technology, ideally in their own industry sector.

"Do you need an evangelist to spread the word internally, or a technical architect to make it happen, or both in one person?" he says.

Higgins: 'Getting to grips with object technology is like getting your brain turned inside out'

"Go to seminars and conferences, listen and talk to the speakers: ask them if the people you need exist and how you can attract or train them. This can help crystallise your own thoughts, which might be a bit hazy at this stage."

Once the requirement has been clarified, managers need to find the right people internally, he says.

"First, not everyone wants to learn: there are certainly people who only work well in their own comfort zone, supporting systems they've always worked on.

Nick Cairns of Concise Software: 'Object technology is all about design principles'

"You must also look for willingness to accept the idea of software re-use. There are always people who say that a piece of code in the object library is not quite good enough or does not quite fit what they need, so they'll write the software from scratch.

"With these groups it's unlikely that people will say they don't want to learn, but there are tell-tale signs: who has been looking at object technology in their own time, or buying the books and reading them?

"In addition, who has a successful track record in grasping new concepts? It's been said that getting to grips with object technology is like having your brain turned inside out, because you need an entirely different perspective. Not everyone can handle this."

Mr Higgins recommends "profile audits" of staff to find those with the right ability and enthusiasm for learning.

He believes the people to look for in particular are those who have combined the discipline and structured methods of the IT department with experience of working on PC systems, especially graphical user interfaces. People who have worked mainly on PCs in an unstructured way should be treated warily during selection for object-oriented training.

Candidates must also be able to contribute to team spirit, rather than working purely on their own. In particular, Mr Higgins says they need "first class communication skills for working with end-users, and the ability to make the leap from a business problem to an IT solution". He believes that no more than a quarter of IT staff will meet all these criteria, but he says that for IT departments just starting in object technology, it is best to identify these people and focus training on them at first.

There is general agreement on where training should start. "When we train people we don't even look at programming languages initially, but concentrate on the concepts of object technology," says Nick Cains at Concise Software. "The issues can go over the heads of even very experienced programmers."

Analysis, design and programming languages come after the basic concepts have been grasped.

Configuration management, a skill that is established in industries such as defence and aerospace, which run many big projects, is also starting to emerge in IT, especially as object-oriented projects become more common. It brings formal control and monitoring of all components of a project or system and is relevant to object technology because systems are built from software components (objects). Changes to objects by one system developer can affect other projects.

■ Business applications

Benefits begin to flow at last

Pioneers report impressive achievements, writes George Black

Two years ago there would hardly have been an article to write about the benefits of object technology, but now such benefits have begun to emerge.

Much trumpeted as the key to re-usability of code and therefore to higher productivity, object software is steadily transforming the entire industry, from hardware design to programming techniques.

The benefits have taken a while to flow through, mainly because there has been a shortage of people with the skills to develop the systems. But the pioneers of the new type of software are now reporting some impressive achievements. Many, if not most, large organisations are starting to use object tools, languages and methods to develop leading applications.

Paradoxically, this year's competition for new object systems run by the Object World show in London produced fewer entrants than in previous years and no prize was awarded in the large systems category. But the chairman of the judging panel Mr Samit Khosla, European technical director for software house SSA, says this reflects the shift of the technology from experimental to strategic status.

"Users such as banks and telecom companies are less willing to share their results as the technology has become more important to them," he observes. The contest did, however, produce a number of users who were willing to disclose their innovative solutions. Among the winners was the financial services company Allied Dunbar, which created a core business system for client information by building a set of re-usable client objects.

The mobile phone network operator Vodafone, another winner, showed how the technology could be harnessed to link new and 'legacy' systems. It turned to object technology to bring together the systems for its analog and digital phone services, using ICL's DAIS, a software component known as an object request broker.

DAIS is based on the Object Management Group's Common Object Broker Request Architecture (Corba) standard. Virtually all organisations – even including a company as young as Vodafone – have legacy systems and face a problem in getting them to work with their newer applications.

When object technology became a buzzword a few years ago it was argued that it would replace systems based on relational databases and remove the need to integrate new and old. That has not happened and so the issue of integrating new and old has become a crucial one.

The fact that Vodafone has been able to use object technology to do this may encourage others to try a similar approach. The company has become an ICL reference site. Vodafone's project manager Mr John Douglass says theirs is a migration technique which many others could use and which would protect their past investment in software.

"It would have been possible to do it without object technology, but it would have taken a lot longer – we would probably still be working on it," he says.

What the vendors of object technology most need is a way of convincing cautious users that their tools are likely to deliver what is promised.

SSA's Mr Khosla argues that object technology acts a catalyst to change attitudes – "it is not a miracle cure, but it helps people to focus on changing the way in which software can best be developed," he says.

> In the next two years, many smaller organisations will start using object technology

Thus, Zurich Insurance has managed to introduce a culture of re-use of software through adopting ideas based on object technology, but without using object tools. It has quantified the benefit clearly: producing a quotation now takes around 40 minutes; before, it took 2.5 hours. Many of those who have benefited from object technology are not even aware of what it is that has helped them. In the UK, when the Home Office's immigration service ordered a new system from ICL to cut the costs of image-scanning at airports, the users did not realise that it was breaking new ground in using Corba and DAIS.

The Home Office's project director Ken Richardson says: "We did not know anything about it until after it was installed. All we wanted was a system that worked and at a reasonable price."

Nor, certainly, did the House of Commons Public Accounts Committee, when it praised the substantial savings achieved by the immigration service, know that object software was responsible. Object technology is beginning to be chosen as the most cost-effective way of developing large, strategic systems.

Anglian Water has embarked on one of the first large business systems

Continued on facing page

■ Pan-European trials • By Geoffrey Nairn

Hard bumps along the way

Some European companies report frustrations in efforts to apply object technology

Object technology has never been more fashionable than now and its promise of quicker software development and lower costs is a potent lure, particularly in Europe where 70 per cent of software is produced by non-IT companies whose internal software projects are notoriously difficult to control.

In 1994, the European Commission started its European System and Software Initiative (ESSI) to promote new software development techniques in European user organisations and encourage a home-grown industry in advanced software development methods and tools.

As with most software, the market for object technology and other development tools is dominated by US vendors. Object technology was just one of the techniques available to organisations looking to produce cheaper, better quality software through ESSI.

Indeed, many analysts agree that before turning to exotic object technology, most companies can achieve greater and longer lasting benefits by analysing and improving their software development "process". This typically means addressing organisational issues such as poor project management or inadequate testing procedures.

"New technology tends to benefit one project and improvements are limited," says George George, senior consultant with the UK research firm Ovum, which has published a report on the pilot phase of ESSI.

"When you use process improvement the very soul of the business is touched. The trouble is, however, that process is not glamorous."

The results of ESSI bear this out. Object-oriented (O-O) technology was the most popular topic among the 94 projects in the pilot phase, which finished at the beginning of this year.

A follow-on phase involving 100 new experiments is now running. Of the 25 pilot projects described in the Ovum report, eight chose O-O technology to improve their software development, while just one chose to focus on project management.

Most participants believed object technology could reduce costs and allow them to re-use software. However, the report attributes the participants' keen interest in object technology to heavy marketing.

"Unfortunately, a lot of organisations are under strong pressure from their developers to use the 'latest and greatest' technologies, and the object technology vendors are making lots of money because of the hype," says George George.

One ESSI project participant discovered the hard way that some advertised results may not always live up to expectations.

Belgian software house Advanced Information Systems (AIS) is no newcomer to object technology – in the 1980s it used the early object-based languages Lisp and SmallTalk – but in recent years most of its work has been done using the conventional C programming language.

In 1994, AIS noted the market was moving increasingly towards object technology and decided it needed to update its skills. Like many small companies, it did not have the resources to evaluate object technology itself, so it turned to ESSI.

The EC initiative funds the extra cost incurred by participants in evaluating and using new software technologies and methods.

AIS chose to experiment object technology on two real-world projects: the first, a milling program for the hot-strip mills of a steel plant; the second, algorithm-based software designed to solve a variety of complex industrial problems, such as optimising the cutting of shapes in foam mats.

AIS chose two O-O development methods, Coad/Yourdon and Booch, for the two projects. These methods cover the analysis and design phases of a software project.

Other O-O methods exist, but the biggest problem developers face is not choosing a method, but rather finding good tools to support it. Object analysis and design tools aim to simplify the developers' task by allowing them to build their systems using screen-based diagrams. These diagrams contain objects that represent real-world business functions.

This object-based approach thus allows developers to concentrate on designing a system that better matches business needs. AIS had problems choosing tools to support its chosen methods and looked at four without finding one that was suitable. "The concepts of O-O development are quite mature, but the technology is still evolving," says Stephane Awouters, project leader at AIS.

"We know we want to change our development to use objects but we cannot get the tools to support them."

For the ESSI projects, the tools AIS looked at either could not be delivered in time or were being frequently modified through new releases. AIS feared the latter would impose a substantial training burden by requiring its developers to keep up with the latest versions.

The company did find a tool to help it automate the production of O-O program code – Rational Rose from US firm Rational Software – but as for the trickier analysis and design phases, AIS is still looking.

Awouters is confident better tools will arrive, thanks to a new unified O-O method being developed. This will end today's proliferation of different methods and tools and force vendors to develop tools to support a single standard. Participants in another ESSI project experienced similar frustrations to AIS. The project involved UK software house Prism Technologies and ICI Eutech, the technology arm of the chemicals giant ICI.

Prism has developed a generic object-based software "platform" that can be used to build distributed object applications for its process-industry customers, such as ICI Eutech.

The product was developed without the support of methods and tools, because Prism had found problems with "first generation" object technology.

Nevertheless, Prism decided in 1994 to take a fresh look at the newer "second generation" tools and through the ESSI initiative it hoped to use commercial object technology to build two applications for ICI Eutech.

"When we looked at the market there was little that was truly object oriented," says Steve Jennis, Prism's marketing director. "The industry has progressed a lot, but even today it's still a lab-based technology."

For the ESSI project, Prism eventually settled on Fusion, a second-generation O-O analysis and design method developed by Hewlett Packard to unify features of earlier methods.

The supporting tool was Paradigm Plus, from US software house Platinum Technology. The combination of Fusion and Paradigm Plus proved a winner, yielding higher quality software that took less time to produce.

The project was also easier to manage and costs were lower, though Prism does not know whether this was due to the new technology or simply the result of applying old-fashioned project management techniques more rigorously.

Prism plans to encourage other customers to use Fusion, but ICI Eutech decided the method was not suitable for its real-time process control applications.

For Prism's Steve Jennis, object technology is worth pursuing, despite the limitations of today's commercial tools.

"At least 60 per cent of applications is standard, run-of-the-mill stuff," he says. "By using objects you can duplicate this and concentrate development on the rest, so raising productivity."

The Belgian company AIS also believes the rewards of objects are worth the effort. It is participating in a follow-on ESSI project involving object technologies.

This time, however, AIS has learnt its lesson and it has spurned the latest technologies for the veteran object language SmallTalk – "even if it is 20 years old, it's still very up to date. More importantly, the tools are readily available," says Stephane Awouters.

Financial applications

Continued from page 13

push things along," he says.

The project will concentrate on delivering objects within a series of special frameworks

"We have done a lot of research with IBM to identify an appropriate framework which defines the process, function and data that will be needed," notes Mr Simon Dessain, managing director of software company Cincom UK, one of the companies involved.

In parallel with the IBM initiative, the Object Management Group (OMG), an industry group set up in 1989 to promote standards in object-oriented software, has set up a number of specialist groups that aim to define the specifications for industry-specific software objects.

The first of these, the Financial Domain Task Force (FDTF), is focused on specifying objects that can be used in the financial services sector.

"All businesses have one thing in common – they supply goods and services which customers will eventually pay for. They need the mechanisms to handle the basic accounting – which doesn't change much. Objects are a good way of making this standard so people don't have to keep re-inventing the wheel," explains Mr Jack Hassall, joint chair of the FDTF, and head of UK software company Stanford Software.

"Accounting is a bit like a bathroom – everyone has to have one, but they don't talk about it. We looked at what OMG was doing and thought: 'Great plumbing – but where's the bathroom?'"

Rapid support

Mr Hassall and his team set about lobbying support from financial companies around the world and was surprised how quickly they saw the logic of common re-usable objects.

"We found that not only was it feasible to create objects – but it was also easy for the businesses to understand the advantages. We now have more than 100 organisations around the world involved in developing specifications for objects that everyone can use."

There is still a great deal of work to do, he says, but that progress has been made in three important areas: currency exchange, business calendars and interfaces to Swift, the banks' cheque-clearing system.

The team is preparing the specifications for proposals which will be published in the next few months. The project has attracted support from a powerful group international financial services companies including the McQuarrie Bank in Australia, the Canadian Imperial Bank of Commerce, Wells Fargo, Bank of America and Merrill Lynch. Mr Hassall notes that the FDTF effort has already been influential.

It has served as the model for the planning of task forces in other business sectors.

The emergence of common software in the form of industry-specific objects will, of course, take time. But the results will be worth waiting for – it will mean that software builders will be free to concentrate on the extra features that can give a business an edge over its rivals, rather than merely re-working the same processes that have been built a hundred times already.

"It reduces the time to build and the risk involved in new applications," says Mr Haren of Ilog. It will also cut costs and lead to better software – an idea that is long overdue.

Philip Manchester

The British Computer Society, the UK's main professional body for IT staff, has recently formed a Configuration Management specialist group to spread the word and study training, support products and other issues.

Harley Davis at Ilog says all training should be put into practice as soon as possible, ideally by letting people join existing object technology teams, where they can be weaned by experienced mentors.

"If you're starting from scratch, begin with a development that's fairly easy, to get you over the bump in thinking and practice," he says. "Managers who send people for training too often then commit a project to object technology: this can be hard on the people who have to deliver."

□ The British Computer Society's configuration management specialist group can be contacted via tel 01793 417417. Concise Software is on 0171-336 7729; Ilog is on 01344 426666.

■ Interview with Phil White of Informix ■ By Rod Newing

Database war declared

Informix, a leading database systems vendor, has spent \$400m on Illustra, a \$5m turnover company. Informix aims to win a technical lead over competitors by extending its relational database to incorporate objects. Phil White, chief executive of Informix, outlines his strategy

His aim is audacious: "We want to take the contents of filing cabinets, e-mail machines, fax machines, voice machines, PCs and so on – and put them all into one place on a database server box," says Mr White.

"When we do, there will be a paradigm shift in the way people think about managing information and utilising it to run their businesses and improve productivity. We will transform the industry with a dramatic and compelling change."

Informix re-invented itself in 1994 and had a record year in 1995. Now it intends to re-invent itself again using object relational technology.

The World Wide Web is driving new information types and content, which is the real rationale for the merger with Illustra.

Illustra's object relational content management system will be integrated into Informix's core parallel database technology to create the Informix Universal Server.

"Object databases have had little success because they are difficult to migrate to, and have poor performance," explains Mr White. Illustra's object relational design gives us a technology lead, because other database vendors will have to re-architect their products to compete with us. At Informix, we now have the two greatest database architects in the world. Mike Saranga who designed MVS and DB2 when he was at IBM and Michael Stonebreaker, who designed both Ingres and Illustra."

He adds: "We have the scaleability and performance of the relational database and extend it with the ability to add unstructured and new types of data. Only about 15 per cent of data in day-to-day operations is numbers and characters. The rest is voice, image, graphics, and so on. The extension of the relational database to cover these is a simple but elegant solution called DataBlades."

A DataBlade is a software module which supports a particular type of data, *(see box: below, right)*. It can be written by Informix, third parties or by users.

ESRI is writing a geographic mapping DataBlade and Verity is producing a text DataBlade. Consultants can write industry-specific DataBlades. Mr White expects that there will be a hundred different choices by the end of 1996 – and 1,000 later.

"Whereas our competitors want customers to use a separate database for each type, we can add pictures, images and text to users existing applications without them being re-architected. This will make users more productive," he says.

A bigger opportunity which Mr White anticipates is that incorporating rich formats into a data warehouse will provide organisations with the ability to 'mine' their unstructured data.

"We were coming up against Illustra in the market place, not IBM, Oracle or Sybase," explains Mr White. "People liked Illustra, but it wasn't scaleable. Companies such as Silicon Graphics wanted our scaleability and strategy. Our potential customers liked both products and asked us to get together. I bought the company when I could get used to the idea of paying \$400m for a \$5m-turnover company.

"When we announced it, the analysts estimated that we had an 18-20 month lead. If it is only half that, it is still a lifetime in this industry. The investment is worth it for the lead it will give us," he says.

"Informix Universal Server will be with some customers in the third quarter, but when it ships in the fourth quarter we will change the industry.

"Larry Ellison [chief executive of Oracle software] says you can't put a boat and a plane together, but we had the best brains in the industry looking at it for a year before we went with Illustra.

"We don't believe anybody can extend their products without 're-architecting' them. Ellison is putting four separate products together, which Stonebreaker describes as three warts and a bandaid."

Mr White is cautious about the latest industry fashion, the network computer – "Ellison and everybody else wants a lightweight client, but the \$500 personal computer (with hard and floppy disks) has made it lose its impetus," he says.

"When I was at Wyse, we built a diskless PC, but people wanted to store data and applications locally. In selected applications, the network computer will be of great benefit. However, with more users accessing richer data we should benefit as much, if not more, than Oracle."

Mr White, who recently received the 'Legend in Leadership' award from the Nasdaq stock Market and the Center for Leadership and Career Studies, has identified a much more interesting potential client for databases. He became interested in smartcards two years ago and carries one in his pocket all the time – "I realised that it gave us the opportunity to program data on to a card securely. It could be the next client. We have a consortium with Gemplus and Hewlett Packard to build a personal information card."

Gemplus is a leader is smartcard production, manufacturing 55m a month; Hewlett Packard is providing security and Informix are contributing CQL, a card query language, which is a class library based on a subset of Informix's development language.

Fifty people are working on the project and six pilots projects are being launched. The cards will be a store of preferences for services such as car hire, hotels and air travel. The cards, when used, will be linked to Informix databases on servers. This will provide a new opportunity for Informix to expand the market for Universal Server. Peoplesoft is building applications for universities and want a smart card for parking, security, cafeteria.

In the IT industry, technical superiority has frequently failed to translate to market leadership. Informix must communicate its marketing message clearly and strongly if is to benefit from the technological lead which it believes Illustra has given it. The key to this will be Informix' partners, whom Mr White believes have the ability to add value to their applications which will give him an advantage in 1997.

However, he has no doubts about his ability to do this: "Informix will be the biggest database vendor in the world in five years and the preferred supplier for users of database technology."

Aiming high: Phil White says 'Informix will be the biggest database vendor in the world in five years'

DataBlades

The Illustra database brings to the Informix relational database system the ability to store unstructured data, using the special management technique of the relational database.

New types of data are stored as individual software 'objects' within the familiar 'table' structure of a relational database. Then a software module, called a 'DataBlade' is added to define the new data structure and provide the functions to manipulate it.

More details are available on the Internet: *http://www.illustra.com*

Wanted: proof of cost-savings

Continued from facing page:

re-engineering programmes in the UK to be based on advanced object tool sets. It is using Select Software Tools' Select Enterprise and Forte Software's Forte Application Environment on a five-year project.

Mr Andy Wilson, managing consultant at Computer Sciences, to which Anglian Water has outsourced its systems, says object technology is enabling the developers to model the applications much more closely on the business. Also, O-O technology will handle the distribution of the systems without the developers needing to do a lot of extra work.

Meanwhile, the cable operator Videotron is having a network management system built in Sun Microsystems' Java object language. The work is being done by the UK software house Protek, with a 20 gigabyte object database based on Object Design's Object Storeproduct.

Protek's development services manager Mr Paul Cash says object technology was chosen because the system would have taken much longer to build using traditional tools. Buyers would like to be re-assured by figures that illustrate the likely costs of different development methods, particularly the overall cost of ownership of applications, including the often high but hidden costs of modification and maintenance. Initiatives are being mounted to create software development metrics, one of them through the OMG in the US, another through the Europe-based Metrics Club.

The difficulty is mainly in measuring elusive aspects such as the extent of re-use and the fit to the business.

In the next two to three years many smaller organisations are expected to start using object technology as they hear more about the successes of some of the pioneering large companies.

■ **Objects and the Internet**

Software goes down the line

Languages such as Java and ActiveX promise an interactive future for the Net, writes George Black

The growth of the Internet is accelerating the use of object technology by larger companies, according to analysts at Forrester Research in the US.

Don Palma, a Forrester senior analyst, says that the biggest growth in object technology will come next year and the year after, when the Java language, originated by Sun Microsystems, and its competitors start to be widely deployed. The Internet and object technology will go hand in hand, because building Internet applications will require the power of object technology.

Multimedia applications – combining corporate data, video and audio, and graphics – will require new object-software tools to manage them. They will be developed in object technology such as Java, enabling users to download application software components, or "applets", whenever they are needed. Internet tools, such as Netscape's and Microsoft's browsers, allow up-to-date applications to be downloaded from the server, instead of residing on the user's personal computer and needing replacement when circumstances change.

This is expected to be far more cost-effective for the application developer, as well as more satisfactory for the user. Many Internet-access providers already deliver software updates over the wire to overcome the problem of reproducing and distributing large quantities of disks, and object technology will simplify the process further.

Java is able to produce applications which can be downloaded to any hardware platform, provided that platform has been properly designed to accept them. Netscape announced in the summer that the next version of its browser, due for release around the end of this year, will encompass object technology. This will include an object request broker (ORB) based on the Object Management Group's Corba (Common Object Request Broker Architecture) standard and compatible with the Internet Inter-ORBProtocol (IIOP).

The growing support for the IIOP by leading software companies such as Oracle and IBM's Lotus subsidiary marks a significant move towards reconstructing the Internet on object technology principles. IIOP is expected to become one of the most important protocols in use on the Internet, complementing HTTP (the Hyper-Text Transfer Protocol).

Much of the industry's interest now focuses on whether the Internet's services will be dominated by Microsoft or Netscape. Microsoft belatedly acknowledged the importance of the Internet this year and proclaimed its intention to join the industry effort to commercialise it. It is developing an object version of its Windows NT operating system, code-named "Cairo", which has begun to appear in stages.

However, Netscape seems to have stolen a march on it. The company is thought to view Java as a means of weakening Microsoft's dominance of the industry. It is questionable whether Microsoft's Windows will continue as a de facto world standard in a business in which the Internet is central, as it is expected to become within a few years. Moreover the environment which Microsoft now dominates – the desktop, equipped with an Intel-based personal computer running Windows and Office applications – may decline in importance.

It looks likely that many users will turn to smaller

Continued on next page

■ Impact of IT in manufacturing • By Andrew Baxter

Senior managers evaluate the IT payback

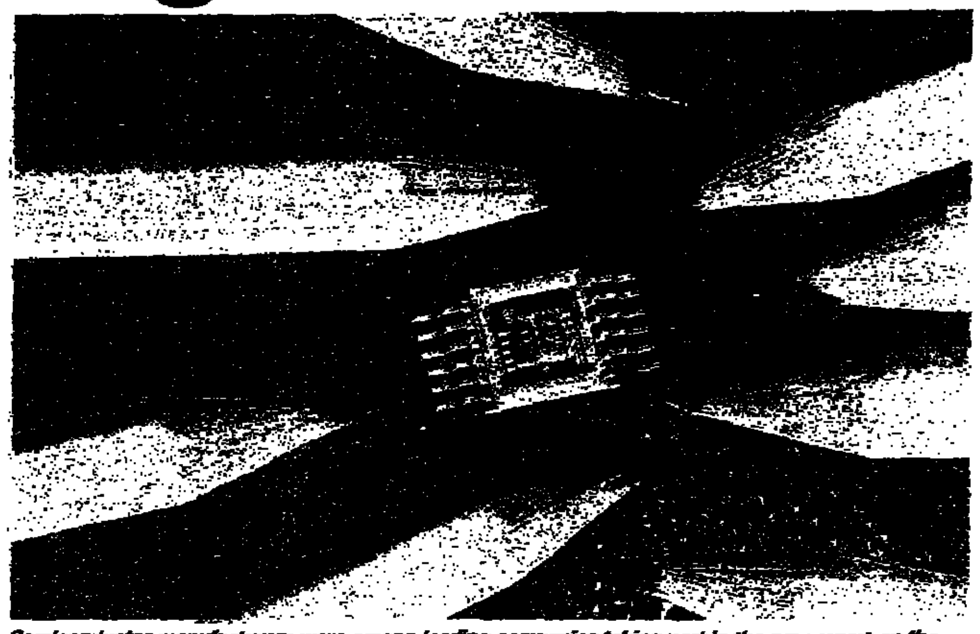
How do leading manufacturing companies view their investments in information technology? And how do they measure the payback or otherwise of these investments?

A new study of 50 leading companies in the European electronics sector will provide food for thought for senior managers on the benefits of applying information technology, and help them benchmark their own performance. The survey was carried out by CATN, the pan-European IT market research and industry analysts, and led by Cambashi, its Cambridge office.

It is the first of the EMIT (European Manufacturing IT Impact) series which CATN intends to continue annually to provide a developing view of best practice in the strategic application of what it calls ICT in engineering and manufacturing industries. The term ICT, for information and communications technology, is used to signify the convergence of computing and communications that characterises today's network-oriented computing infrastructures.

The primary purpose of the study is to analyse how far top management in leading electronics companies have progressed in creating ICT environments which genuinely support corporate business objectives, and how they have gone about it. No information is directly attributed to any company or person, which Cambashi believes has improved the quality of the information obtained and the frankness of the views expressed.

When it comes to the broad issues of strategy formation, the study finds two contrasting attitudes to the question of whether the cost of ICT should be viewed as an investment: the *tactical* attitude, which views ICT primarily as the cost of improving productivity; and the *strategic* attitude, which views ICT costs as an investment in the business and a primary means of inducing business change. It is, observes Cambashi, rather like counting the cost of labour simply as something to be minimised or viewing people as the company's principal asset: real life lies somewhere in between.



Semiconductor manufacturers were among leading companies taking part in the new report on the benefits of applying IT. Pictured here: a low voltage, high ouput integrated circuit by Mitsubishi

The two attitudes to ICT are not mutually exclusive; productivity and cost reduction continue to be key objectives for any management. But the strategic attitude implies a much more fundamental increase in the impact of ICT on the business, the issues involved become more complex and decisions become more critical.

Encouragingly, there is no doubt that the strategic attitude has taken over in the minds of top management in all the leading companies interviewed by Cambashi. Most are still in the middle of substantial business change programmes or consider themselves to be in a state of continual change.

ICT investment is clearly seen as an essential part of those changes. Differences do occur, however, in the management styles that top management bring to bear on the business of creating and implementing an ICT strategy. But is this a matter only of style, the study asks, or of substance?

It is sometimes said that chief executives and boards of directors generally "don't understand ICT" and do not engage sufficiently in ICT strategy formation and implementation monitoring. "From our findings," says Cambashi, "we have to disagree with this view, not only because it turns out to be wrong – at least in the best practice companies – but because it misses the point."

Given the ever-increasing impact of information and communications technology, it obviously warrants proportionate management attention, says the study. On the other hand, the complexity of the technology and the many ways it impacts the business make it naive to believe that chief executives can address the issues simply by taking a more hands-on approach.

In this respect, the mark of best practice (whether or not the chief executive has a strong ICT background and interest) is the quality and effectiveness of the ICT planning and management organisation that has been created and the way the board of directors interacts with it.

The study finds that the best companies all have a sophisticated ICT planning, development and support organisation and a strong interface between it and the board.

Another myth which the study appears to explode concerns investment justification. According to a widely quoted view, says Cambashi, where management finds it difficult to forecast financial payback, it goes in for "acts of faith."

But, say the consultants, "We don't believe that to be true in the best companies, and it is not what the study found. Like much received wisdom, it errs by over-simplification: there is a grain of truth, but the real situation is more complex.

"We did find that management has become more sophisticated in designing evaluation methods for the increasing number of cases where financial payback is difficult to estimate."

Where payback forecasts can readily be made on the basis of cost or time-savings there is no issue. These cases typically occur where obsolete local productivity tools are being replaced.

At the other extreme is the "no option" case of the kind which arises frequently in the semiconductor industry, for instance, where the cost of investing in the necessary engineering tools to support step jumps in product technology is a fundamental part of the cost of being in that business. Payback is assessed at a high level, as part of the business case for staying in the market.

The really difficult decisions, says Cambashi, concern investment in the infrastructure of information management and communication – integrated systems which impact the efficiency of individuals, groups and the whole business in complex ways.

In such cases, payback is not assessed by acts of faith. The best companies have developed sophisticated methods of process analysis which allow them to convert assessment of company-wide process improvement into evaluation of business advantage and, finally, into the "bottom line" financial impact.

A characteristic of the best companies is keen understanding of business objectives at all levels and a highly-developed capability for project managing the evaluation process across the organisation.

The quality of the justification therefore depends on the quality and thoroughness of the ICT consultative process. Again, says Cambashi, "we associate best practice with those companies which have the best network of management consultation for evaluating, testing and criticising investment proposals."

Notably, where the justification process is well-managed, the subsequent systems implementations tend to be more successful.

The survey was partly sponsored by Cadence Design Systems and Hewlett-Packard, and carried out in association with the Financial Times. Report available from Cambashi Ltd, 52 Mawson Road, Cambridge, UK CB1 2HY. Tel +44 1223 460439, fax +44 1223 461055. Price: £150

Categories and companies involved in the survey included:

□ **Automotive electronics:**
Lucas
Robert Bosch
Siemens Automotive
Temic (Daimer Benz)
□ **Avionics and satellites:**
Daimler Benz Aerospace
Dassault Electronique
Smiths Aerospace
□ **Components, including software:**
Coutant Lambda
D2D (ICL)
Elcoteq
Helbako
Rational Software
□ **Computers and office equipment:**
Hewlett-Packard
SUN Microsystems
□ **Consumer electronics:**
JVC
Matsushita
Panasonic
Philips Electronics
Samsung
Sony
□ **Industrial Systems:**
AEG Electrocomponents
Crosfield Electronics
Siemens UK
□ **Measurement, instrumentation and control:**
AI Cambridge
Coutant Lambda
Kjer
Le Croy
Schlumberger
Siebe
Weisela
□ **Medical electronics:**
Polar Electronics
Radionics
□ **Military electronics:**
(Anonymous)
BAe Defence Dynamics
□ **Semiconductor design house:**
Silex
□ **Semiconductor manufacturers:**
GEC Plessey Semiconductor
LSI Logic
Mitsubishi Electric
Philips Semiconductor
Hitachi Europe
Hitachi Microsystems
□ **Sub systems and subcontractors:**
D2D (ICL)
Force Computers
Helbako
□ **Telecommunications:**
Alcatel Alsthom
Dancall
Ericsson Radio
GPT
LM Ericsson
Motorola
Nokia
SIAE Microelectronics

In several categories, some companies took part anonymously.

Software on the Internet

Continued from page 17:

mobile devices and intranet communications modelled on the Internet. So Microsoft has to move fast to ensure that it continues to call the tune. While expressing public support for Java and introducing its own Java development language called Visual J++, it is apparently also laying plans to retain its lead position by promoting an alternative to Java, called ActiveX. ActiveX builds Internet access into Java and thus appears intended to hijack Java into the Windows environment – becoming the standard way of managing objects and building Internet World Wide Web pages.

Microsoft has proposed that ActiveX should become an official standard through acceptance by a standards body, departing from the company's previous strategy of imposing *de facto* standards through market strength.

Microsoft's Internet and tools product manager Mike Pryke-Smith says the company sees ActiveX as the ideal vehicle for Internet applications and claims that it is already the most popular object tool with developers. ActiveX and Java will complement each other, he says, and ActiveX will extend Java's capabilities. "No programming language has ever dominated the computer industry. Java is not the Holy Grail, it is just another programming language."

At the same time, Microsoft is challenging the Corba and IIOP standards. Its alternative to these is Ole/DCOM (Object Linking and Embedding/Distributed Component Object Model), which is the communications system for ActiveX. Microsoft would like Ole/DCOM accepted as another *de facto* standard and claims that it is already well on the way to achieving that status.

Netscape's product marketing manager Mr Eckart Walther agrees with Mr Pryke-Smith that Java needs extending, but says that Corba and IIOP are the way to do it. "These are the *de facto* standards," he says.

They will become the accepted way of allowing programs to communicate with each other across the Internet, opening up the Internet to many more business transactions and creating a boom in electronic commerce, he says.

So Microsoft and Netscape agree that object technology is the way forward for the Internet, but both claim to be able to provide the best products to change the Internet's structure. Ms Liz Barnett, an analyst with Giga Information Group, noted in the summer that Corba was ahead of Ole/DCOM, but ActiveX was ahead of Java both in technical features and market take-up.

هكذا من الأصل